

Table 1a. Standard (based on ISO and ASTM) abbreviations of plastics

Abbreviation	Name	Abbreviation	Name
ABS	Acrylonitrile butadiene styrene.	PMP	Poly-4-methylpentene-1.
A/B/A	Acrylonitrile/butadiene/acrylate.	PMS	Poly- α -methylstyrene.
A/CPE/S	Acrylonitrile/chlorinated polyethylene/styrene.	POM	Polyoxymethylene or, polyacetal or, polyformaldehyde.
A/EPDM/S	Acrylonitrile/ethylene-propylene-diene/styrene.	PP	Polypropylene.
A/MMA	Acrylonitrile/methyl methacrylate.	PPE	Polyphenylene ether.
ASA	Acrylonitrile/styrene/acrylate.	PPOX	Polypropylene oxide.
CA	Cellulose acetate.	PPS	Polyphenylene sulphide.
CAB	Cellulose acetate butyrate.	PPSU	Polyphenylene sulphone.
CAP	Cellulose acetate propionate.	PS	Polystyrene.
CF	Cresol-formaldehyde.	PSU	Polysulphone.
CMC	Carboxymethyl cellulose.	PTFE	Polytetrafluoroethylene.
CN	Cellulose nitrate.	PUR	Polyurethane.
CP	Cellulose propionate.	PVAC	Polyvinyl acetate.
CTA	Cellulose triacetate.	PVAL	Polyvinyl alcohol.
EC	Ethyl cellulose.	PVB	Polyvinyl butyral.
E/EA	Ethylene/ethylene acrylate.	PVC	Polyvinyl chloride.
E/MA	Ethylene/methacrylic acid.	PVDC	Polyvinylidene chloride.
EP	Epoxide or epoxy.	PVDF	Polyvinylidene fluoride.
E/P	Ethylene/propylene.	PVF	Polyvinyl fluoride.
EPDM	Ethylene/propylene/diene.	PVFM	Polyvinyl formal.
E/TFE	Ethylene/tetrafluoroethylene.	PVK	Polyvinylcarbazole.
EVAC	Ethylene/vinyl acetate.	PVP	Polyvinylpyrrolidone.
EVAL	Ethylene/vinyl alcohol.	SAN	Styrene acrylonitrile.
FEP	Perfluoro(ethylene/propylene): tetrafluoroethylene/hexafluoropropylene.	S/B	Styrene/butadiene.
FF	Furane-formaldehyde.	SI	Silicone.
MBS	Methacrylate/butadiene/styrene.	SMA	Styrene maleic anhydride.
MC	Methylcellulose.	S/MS	Styrene α -methylstyrene.
MF	Melamine-formaldehyde.	SP	Saturated polyester.
MPF	Melamine-phenol-formaldehyde.	UF	Urea formaldehyde.
PA	Polyamide.	UP	Unsaturated polyester.
PAI	Polyamide imide	VC/E	Vinyl chloride/ethylene.
PAN	Polyacrylonitrile.	VC/E/MA	Vinyl chloride/ethylene/methyl acrylate.
PAUR	Polyester urethane.	VC/E/VAC	Vinyl chloride/ethylene/vinyl acetate.
PB	Polybutene-1.	VC/MA	Vinyl chloride/methyl acrylate.
PBT	Polybutylene terephthalate.	VC/MMA	Vinyl chloride/methyl methacrylate.
PC	Polycarbonate.	VC/OA	Vinyl chloride/octyl acrylate.
PCTFE	Polychlorotrifluoroethylene.	VC/VAC	Vinyl chloride/vinyl acetate.
PDAP	Polydiallyl phthalate.	VC/VDC	Vinyl chloride/vinylidene chloride.
PE	Polyethylene.		
PEBA	Polyether block amide.		
PEEK	Polyetheretherketone.		
PEI	Polyether imide.		
PEOX	Polyethylene oxide.		
PES	Polyether sulphone.		
PET	Polyethylene terephthalate.		
PES	Polyether sulphone.		
PEUR	Polyether urethane.		
PF	Phenol formaldehyde.		
PFA	Perfluoro alkoxyl alkane.		
PI	Polyimide.		
PMMA	Polymethyl methacrylate.		

The above abbreviations may be modified by the addition of up to four specified letters after the abbreviation for the polymer under discussion. For example, PS could become PS-HI when high impact polystyrene is being described (see table 2).

When mixtures are made from two or more polymers (blends or alloys), ISO 1043 suggests that the symbols for the basic polymers be separated by a plus (+) sign and that the symbols be placed in parentheses. For example, a mixture of *polymethyl methacrylate* and *acrylonitrile-butadiene-styrene* should be represented as (PMMA + ABS). That is, a mixture of poly(methyl methacrylate) and acrylonitrile/butadiene/styrene should be represented as (PMMA + ABS).

Table 1b. Standard (based on ISO and ASTM) abbreviations of rubbers

Abbreviation	Name or meaning
ABR	Acrylate-butadiene rubber.
ACM	Copolymer of ethyl acrylate, or another acrylate, and a small amount of a monomer to facilitate vulcanization. See <i>acrylic rubber</i> .
AECO	Terpolymer of allyl glycidyl ether, ethylene oxide and epichlorhydrin. See <i>epichlorhydrin rubber</i> .
AEM	Copolymer of ethyl acrylate, or another acrylate, and ethylene. See <i>ethylene-methyl acrylate rubber</i> .
AFMU	Terpolymer of tetrafluoroethylene, trifluoronitrosomethane and nitrosoperfluorobutyric acid. See <i>carboxy-nitroso rubber</i> .
ANM	Copolymer of ethyl acrylate, or another acrylate, and acrylonitrile.
AU	Polyester urethane. See <i>polyurethane</i> .
BIIR	Bromo-isobutene-isoprene rubber. See <i>halogenated butyl rubber</i> .
BR	Butadiene rubber.
CFM	Polychlorotrifluoroethylene. See <i>vinylidene fluoride-chlorotrifluoroethylene copolymer</i> .
CIIR	Chloro-isobutene-isoprene rubber. See <i>halogenated butyl rubber</i> .
CM	Chloropolyethylene. See <i>chlorinated polyethylene</i> .
CO	Polychloromethyloxiran. See <i>epichlorhydrin rubber</i> .
CR	Chloroprene rubber
CSM	Chlorosulphonylpolyethylene. See <i>chlorosulphonated polyethylene</i> .
EAM	Ethylene-vinyl acetate rubber.
ECO	Ethylene oxide-chloromethyloxiran. See <i>epichlorhydrin rubber</i> .
EOT	A rubber which has sulphur, carbon and oxygen in the main polymer chain. A rubber with polysulphide linkages in which, for example, the polysulphide linkages are separated by organic groups (R groups) such as $-\text{CH}_2-\text{CH}_2-\text{O}-\text{CH}_2-\text{CH}_2-$ and other R groups. For example, by $-\text{CH}_2-\text{CH}_2-$.
EPDM	Ethylene-propylene diene monomer. A terpolymer of ethylene, propylene and a diene with the residual unsaturated portion of the diene in the side chain. An <i>ethylene-propylene rubber</i> .
EPM	Ethylene-propylene monomer or copolymer. See <i>ethylene-propylene rubber</i> .
EU	A polyether urethane. See <i>polyurethane</i> .
FFKM	A perfluoro rubber of the polymethylene type having all substituents on the polymer chain either fluoro, perfluoroalkyl or perfluoroalkoxy groups. See <i>perfluorinated copolymer</i> .
FKM	A fluororubber of the polymethylene type having substituent fluoro and perfluoroalkoxy groups on the main chain. See <i>perfluorinated copolymer and fluororubber</i> .
FMQ	Silicone rubber containing fluoro and methyl substituent groups on the polymer chain.
FPM	A rubber having fluoro and fluoroalkyl, or fluoroalkoxy groups, substituent groups on the polymer chain. See <i>fluororubber</i> .
FVMQ	Silicone rubber containing fluoro, vinyl and methyl substituent groups on the polymer chain. See <i>silicone rubber</i> .
FZ	A rubber which has nitrogen and phosphorous in the main polymer chain. The $-\text{P}=\text{N}-$ chain has fluoroalkoxy groups on the P atoms or aryloxy groups on the P atoms: the aryloxy groups are phenoxy and substituted phenoxy groups. See <i>phosphonitrilic polymer</i> .
GPO	Propylene oxide-allylglycidyl ether rubber. See <i>propylene oxide rubber</i> .
IIR	Isobutene-isoprene rubber. See <i>butyl rubber</i> .
IM	Polyisobutene.
IR	Isoprene rubber (synthetic).
M	A rubber which has a saturated chain of the polymethylene type.
MQ	Silicone rubber containing only methyl substituent groups on the polymer chain. See <i>silicone rubber</i> .
N	A rubber which has nitrogen in the main polymer chain.
NBR	Nitrile-butadiene rubber. See <i>nitrile rubber</i> .
NCR	Acrylonitrile-chloroprene rubber.
NIR	Acrylonitrile-isoprene rubber
NR	Natural rubber. Isoprene rubber (natural).
O	A rubber which has oxygen in the main polymer chain. Rubbers which contain an ether-group contain the letter O.
OT	A rubber which has sulphur, carbon and oxygen in the main polymer chain. A rubber with polysulphide linkages in which, for example, the polysulphide linkages are separated by organic groups (R groups) such as $-\text{CH}_2-\text{CH}_2-\text{O}-\text{CH}_2-\text{O}-\text{CH}_2-\text{CH}_2-$.
PBR	Pyridine-butadiene rubber.
PMQ	Silicone rubber containing both methyl and phenyl groups substituent groups on the polymer chain. See <i>silicone rubber</i> .
PSBR	Pyridine-styrene-butadiene rubber.
PVMQ	Silicone rubber containing methyl, phenyl and vinyl substituent groups on the polymer chain. See <i>silicone rubber</i> .
Q	A rubber which has silicon and oxygen in the main polymer chain. See <i>silicone rubber</i> .
R	A rubber which has an unsaturated carbon chain, for example, natural rubber and synthetic rubbers derived at least partly from diolefins.
SBR	Styrene-butadiene rubber.
SCR	Styrene-chloroprene rubber.
SIR	Styrene-isoprene rubber.
T	A rubber which has sulphur in the main polymer chain: a rubber which has sulphur, carbon and oxygen in the main polymer chain. See <i>polysulphide rubber</i> .
U	A rubber which has carbon, oxygen and nitrogen in the main polymer chain.
VMQ	Silicone rubber containing both methyl and vinyl groups substituent groups in the polymer chain.
X	Denotes the presence in a rubber of the reactive carboxylic (COOH) group.
XBR	Carboxylic-butadiene rubber.
XCR	Carboxylic-chloroprene rubber.
XNBR	Carboxylic-nitrile rubber. See <i>carboxylated nitrile rubber</i> .
XSBR	Carboxylic-styrene butadiene rubber.
Z	A rubber which has nitrogen and phosphorous in the main polymer chain.

Table 2a. Letters used to modify abbreviations, or symbols, for plastics (ISO and ASTM)

Letter	Meaning or significance
A	Acetate, acrylate, acrylonitrile, alkane, alkoxy, allyl, amide, and ester.
AC	Acetate.
AL	Alcohol.
AN	Acrylonitrile.
B	Block, butadiene, butene, butyl, butylene, butyral, and butyrate.
C	Carbonate, carboxy, cellulose, chloride, chlorinated, chloro, and cresol.
D	Density, and di.
E	Ether, ethyl, ethylene, expandable or expanded.
EP	Epoxy or epoxide.
F	Flexible, fluid, fluoride, fluoro, formaldehyde, furane, and perfluoro
FM	Formal.
H	High
I	Imide, impact, and iso.
IR	Isocyanurate.
K	Carbazole, and ketone.
L	Linear or low.
M	Medium, melamine, meth, methacryl, methacrylate, methyl, methylene, and molecular.
MA	Maleic acid, and methacrylic acid.
N	Nitrate, normal or novolak.
O	Octyl, oxide, and oxy.
OX	Oxide.
P	Pentene, per, phenol, phenylene, phthalate, plasticized, poly, polyester, propionate, propylene, and pyrrolidone.
R	Raised or resol.
S	Saturated, styrene, sulfide, and sulfone.
SI	Silicone.
SU	Sulfone.
T	Terephthalate, tera, thermoplastic, and tri.
U	Ultra, unplasticized, unsaturated, and urea.
UR	Urethane.
V	Very, and vinyl.
W	Weight.
X	Crosslinked or crosslinkable.

Table 2b. Commonly-used letters used to modify abbreviations for plastics (i.e. in addition to table 2a)

Letter	Meaning or significance
A	Atactic or, amorphous.
B	Block copolymer.
C	Crystalline.
CF	Carbon fibre.
E	Emulsion (polymer).
EP	Engineering thermoplastic or, engineering thermoplastics material.
F	Fibre.
FR	Flame retardant and/or fire resistant.
G	Glass.
GF	Glass fibre.
GMT	Glass mat (reinforced) thermoplastics (material).
GP	General purpose.
H	Homopolymer.
HI	High impact.
K	Copolymer.
M	Mass or bulk (polymer) or, mat.
O	Oriented.
P	Plasticised.
PMC	Polyester moulding compound.
R	Random copolymer or, reinforced.
S	Sulphide, sulphone, and suspension (polymerization).
SU	Sulphone.
TP	Thermoplastic.
U	Unplasticised.
V	Vulcanized or crosslinked
XL	Crosslinked or, cured or, vulcanized

Table 2c. Symbols used for fillers and/or reinforcing materials

Letter	Meaning or significance
A	Asbestos
B	Boron or, beads or, spheres or, balls
C	Carbon or, chips, or, cuttings
D	Powder
F	Fibre
G	Glass or, ground
H	Whisker
K	Chalk or, knitted fabric
L	Cellulose or, layer
M	Mineral or, metal
N	Non-woven fabric (usually thin)
P	Mica or, paper
Q	Silicon
R	Aramid or, roving
S	Synthetic, organic or, scale, flake
T	Talcum or, cord
V	Veneer
W	Wood
Y	Yarn
Z	Others.

Please note that if a letter is not being used in these tables then, it does not mean that it is not being used in another branch of the polymer industry.

Table 3. *Some commonly used abbreviations and trade names of plastics and thermoplastic elastomers*

<i>Abbreviation</i>	<i>Common name</i>	<i>Common trade names or, trade marks</i>
ABS	Acrylonitrile butadiene styrene	Cycolac; Lustran.
AMS	Alpha methyl styrene	Elite HH.
ASA	Acrylonitrile styrene acrylate (AAS)	Luran S
BDS	Butadiene styrene block copolymer	K resin; Styrolux.
BMC	Bulk moulding compound	Freemix; Norsomix.
CA	Cellulose acetate	Cellidor; Tenite.
CAB	Cellulose acetate butyrate	Cellidor; Tenite.
CAP	Cellulose acetate propionate	Cellidor; Tenite.
CF	Casein formaldehyde	Erinoid; Lactoid.
CN	Cellulose nitrate	Celluloid; Xylonite.
CP	Cellulose propionate (CAP)	Cellidor; Tenite.
CPE	Chlorinated polyethylene (PE-C)	Bayer CM; Tyrin CM
CPVC	Chlorinated polyvinyl chloride (PVC-C)	Lucalor.
DAP	Diallyl phthalate	(from Synres)
DAIP	Diallyl isophthalate	
DMC	Dough moulding compound	Beetle DMC; ERF DMC.
EA-MPR	Elastomer alloy melt processable rubber or, melt processable rubber	Alcryn.
EA-TPV	Elastomer alloy thermoplastic vulcanizate	Lomod; Santoprene.
EP	Epoxide or epoxy	Araldite.
ETFE	Tetrafluoroethylene-ethylene copolymer	Tefzel.
EVA	Ethylene vinyl acetate copolymer (EVAC)	Evatane.
EVAl	Ethylene vinyl alcohol copolymer	Clarene; Eval.
EVOH	Ethylene vinyl alcohol copolymer	Clarene; Eval.
FEP	Fluorinated ethylene propylene (TFE-HFP)	Teflon FEP.
GPVC	Granular polyester moulding compound	Freeflo; Impel.
HDPE	High density polyethylene (PE-HD)	Lupolen HD; Rigidex.
HIPS	High impact polystyrene (TPS or IPS)	Lustrex; Polystyrol.
LCP	Liquid crystal polymer	Vectra; Xydar.
LDPE	Low density polyethylene (PE-LD)	Alathon; Hostalen LD.
MBS	Methacrylate butadiene styrene	Paraloid.
MDPE	Medium density polyethylene (PE-MD)	Fortiflex.
MF	Melamine formaldehyde	Melmex; Melopas.
MPF	Melamine phenol formaldehyde	Melmex
MPR	Melt processable rubber or, elastomer alloy melt processable rubber	Alcryn.
PA	Polyamide or nylon	
PA 6	Polyamide 6 or nylon 6	Akulon K; Ultramid.
PA 11	Polyamide 11 or nylon 11	Rilsan B.
PA 12	Polyamide 12 or nylon 12	Rilsan A; Grilamid.
PA 46	Polyamide 46 or nylon 46	Stanyl.
PA 66	Polyamide 66 or nylon 66	Maranyl; Zytel.
PA 610	Polyamide 610 or nylon 610	Brulon; Perlon N.
PAA 6	Polyaryl amide or, poly-m-xylylene-adipamide (PA MXD6)	Ixef.
PAN	Polyacrylonitrile	Acrilan; Barex; Orlon.
PBI	Polybenzimidazole	Celazole
PBT	Polybutylene terephthalate	Pocan; Valox.
PC	Polycarbonate	Lexan; Makrolon.
PCTFE	Polychlorotrifluoroethylene	Hostaflon C2; Kel-F
PE	Polyethylene	Alathon; Lupolen.
PEBA	Polyether block amide (TPE-A)	Pebax.
PEEK	Polyether ether ketone	Victrex PEEK;
PEEL	Polyether ester (TPE-A or YPBO)	Arnitel; Hytrel.
PE-HD	Polyethylene-high density	Lupolen HD; Rigidex HDPE.
PEI	Polyether imide	Ultem.
PEK	Polyether ketone	Hostatec.
PEKK	Polyether ketone ketone	(from DuPont)
PE-LD	Polyethylene-low density	Alathon; Lupolen.
PE-MD	Polyethylene-medium density	Fortiflex.
PE-VLD	Polyethylene-very low density	Norsoflex
PET	Polyethylene terephthalate	Arnite A; Techster E.
PES	Polyether sulphone	Victrex.
PMC	Polyester molding compound	Aropol; Norsomix
PF	Phenol formaldehyde	Bakelite; Sternite.
PI	Polyimide	Vespele.

Table 3 - contd

<i>Abbreviation</i>	<i>Common name</i>	<i>Common trade names or, trade marks</i>
PMMA	Polymethyl methacrylate (acrylic)	Diakon; Plexiglas.
PMMA-T	Toughened acrylic	
PMMI	Polymethyl methacrylimide	Pleximid.
PMP	Polymethyl pentene	TPX; Crystalor.
POM	Polyoxymethylene or, acetal or, polyformaldehyde	Delrin; Hostaform
POM-H	Acetal homopolymer	Delrin and Delrin II
POM-CO	Acetal copolymer	Hostaform; Ultraform
PP	Polypropylene	Profax; Propathene.
PPA	Polyphthalamide	
PPE	Polyphenylene ether (see PPO)	
PPO	Polyphenylene oxide-usually modified polyphenylene oxide (PPO-M)	Luranyl; Noryl.
PPS	Polyphenylene sulphide	Fortron; Ryton.
PPPS	Polyphenylene sulphide sulphone	Ryton S.
PPVC	Plasticised polyvinyl chloride (PVC-P)	Solvic; Vinnol.
PS	Polystyrene (GPPS or PS-GP)	Lustrex; Polystyrol.
PSU	Polysulphone	Udel.
PTFE	Polytetrafluoroethylene	Fluon; Teflon.
PVC	Polyvinyl chloride	Corvic; Geon.
PVDC	Polyvinylidene chloride copolymers	Saran.
PVDF	Polyvinylidene fluoride	Dyflor; Kynar; Solef.
PVF	Polyvinyl fluoride	Tedlar.
SAN	Styrene acrylonitrile copolymer	Lustran SAN; Tyril.
SMC	Sheet moulding compound	ERF SMC; Flomat.
UPVC	Unplasticized polyvinyl chloride (PVC-U)	Corvic; Geon.
RMPP	Rubber modified polypropylene (RRPP or PP/EPDM)	Uniroyal TPR; Keltan.
SBS	Styrene butadiene styrene block copolymer or, thermoplastic elastomer styrene based (TPE-S)	Cariflex TR; Solprene.
SEBS	Styrene butadiene styrene block copolymer (saturated) or, thermoplastic elastomer styrene based (TPE-S)	Cariflex.
TPE	Thermoplastic elastomer (rubber)	
TPE-A	Polyether block amide (PEBA)	Pebax.
TPE-E	Thermoplastic elastomer - ether ester or, polyether ester elastomer	Arnitel; Hytrel.
TPE-OXL	Thermoplastic elastomer - polyolefin based with crosslinked rubber	Levaflex; Santoprene.
TPE-S	Thermoplastic elastomer styrene based (usually styrene butadiene styrene block copolymer)	Cariflex TR; Solprene.
TPE-U	Thermoplastic polyurethane (TPU)	Elastollan; Estane.
TPO	Thermoplastic polyolefin (RMPP)	Propathene OTE; Vistaflex.
TPR	Thermoplastic rubber (elastomer)	
TPU	Thermoplastic polyurethane	Elastollan; Estane.
TPV	Thermoplastic vulcanizte (a TPE with crosslinked rubber)	Lomod; Santoprene.
UF	Urea formaldehyde	Beetle; Scarab.
VE	Vinyl ester resins	
VLDPE	Very low density polyethylene (ULDPE)	Norsoflex.

Table 4. *Some abbreviations and names of plastics and elastomers*
Where there is more than one entry, the italicized words shall be used to find more information in the text

1,2 BR	Vinyl polybutadiene or, <i>1,2-polybutadiene</i> . See <i>polybutadiene rubber</i> .	BR-Co	See Co-BR. <i>Butadiene rubber</i> based on a cobalt catalyst.
AAS	See <i>ASA</i> .	BR-E	See E-BR. Emulsion butadiene rubber. See <i>butadiene rubber</i> .
ABS	<i>Acrylonitrile-butadiene-styrene</i> or, acrylonitrile-butadiene-styrene copolymer or, poly-(1-butenylene-g-1-phenylethylene-co-1-cyanoethylene).	BR-L	See L-BR. Solution butadiene rubber. See <i>butadiene rubber</i> .
ACM	<i>Acrylic rubber</i> or, acrylate rubber or, acrylic acid ester rubber or, acrylic elastomer or, polyacrylic elastomer.	BR-li	See Li-BR. <i>Butadiene rubber</i> based on a lithium catalyst.
ACS	<i>Acrylonitrile-chlorinated polyethylene-styrene copolymer</i> or, acrylonitrile-styrene-chlorinated polyethylene.	BR-Nd	See Nd-BR. <i>Butadiene rubber</i> based on a neodymium catalyst.
AECO	Allyl group containing <i>epichlorhydrin rubber</i> or, epichlorhydrin-ethylene oxide-allyl glycidyl ether terpolymer or rubber. ETER or ETE.	BR-Ni	See Ni-BR. <i>Butadiene rubber</i> based on a nickel catalyst.
AEM	<i>Ethylene-methyl acrylate rubber</i> or, ethylene-acrylate copolymer or rubber or, ethylene-acrylic elastomer. EAM.	BR-OE	See OE-BR. Oil extended butadiene rubber. See <i>butadiene rubber</i> .
AES	<i>Acrylonitrile-ethylene/propylene-styrene rubber</i> or, acrylonitrile-styrene/EPR rubber or, acrylonitrile-styrene/EPR elastomer.	CA	<i>Cellulose acetate</i> or, acetylcellulose or, cellulose ethanoate.
AFMU	<i>Carboxy-nitroso rubber</i> or, fluoronitrosorubber or, nitrosofluororubber or, nitrosorubber or nitroso rubber.	CAB	<i>Cellulose acetate-butyrate</i> or, cellulose ethanoate-butanoate.
AMMA	Acrylonitrile-methyl methacrylate.	CAP	<i>Cellulose acetate-propionate</i> or, cellulose ethanoate-propanoate.
AMS	<i>Alpha methyl styrene</i> or, poly-(α -methylstyrene).	CF	<i>Casein-formaldehyde</i> . CF is also used for cresol-formaldehyde.
APP	<i>Atactic polypropylene</i> or, atactic polypropene or, atactic poly(propylene). PP-A.	CFM	<i>Vinylidene fluoride-chlorotrifluoroethylene copolymer</i> or, poly-(vinylidene fluoride-co-chlorotrifluoroethylene) or, polychlorotrifluoroethylene rubber or elastomer.
ASA	<i>Acrylate-styrene-acrylonitrile</i> or, acrylate modified styrene acrylonitrile or, acrylonitrile-styrene-acrylate copolymer. AAS.	CHR	Allyl-group-containing epichlorhydrin rubber or, epichlorhydrin-ethylene oxide-allyl glycidyl-ether terpolymer or rubber. AECO or ETER or ETE.
ASR	Alkylene sulphide rubber.	CIC	Continuously impregnated compound - a <i>polyester moulding compound</i> or PMC.
AU	<i>Polyurethane rubber</i> (ester based) or polyurethane elastomer or, urethane rubber. PAUR or PU or PUR.	CIIR	chlorinated butyl rubber or, chloro-isobutene-isoprene rubber or, <i>halogenated butyl rubber</i> . IIR-C.
AU-I	<i>Polyurethane rubber</i> , based on polyesters, isocyanate crosslinkable.	CIR	<i>Coumarone-indene resins</i> or, indene-coumarone resins or, indene resins.
AU-P	<i>Polyurethane rubber</i> , based on polyesters, peroxide crosslinkable.	CM	Chloropolyethylene or, <i>chlorinated polyethylene</i> or, chloro-polyethylene. CPE or PE-C.
BDS	Styrene-butadiene block copolymer. SBB.	CN	<i>Cellulose nitrate</i> or, nitrocellulose.
BIIR	Brominated butyl rubber or, bromo-isobutene-isoprene rubber or, <i>halogenated butyl rubber</i> . IIR-B.	CO	Polychloromethyloxiran or, epichlorhydrin (homopolymer) rubber. EC. See <i>epichlorhydrin rubber</i> .
BMC	<i>Bulk moulding compound</i> . (a <i>polyester moulding compound</i> or PMC).	Co-BR	<i>Butadiene rubber</i> based on a cobalt catalyst. BR-Co
BR	<i>Butadiene rubber</i> or, cis - polybutadiene or, cis-1,4-polybutadiene rubber or, 1,4-polybutadiene or, polybutadiene rubber or, poly-(1-butenylene). BR or PB or PBD.	COPE	See TPE-E. <i>Thermoplastic elastomer - ether based</i> .
		CP	<i>Cellulose propionate</i> or, cellulose propanoate.
		CPE	See CM.
		CPVC	Chlorinated polyvinyl chloride. PVC-C.
		CR	<i>Chloroprene rubber</i> or, polychlorobutadiene or, poly-(2-chloro-1,3-butadiene) or, poly-(1-chloro-1-butenylene) or, polychloroprene rubber.

Table 4 - contd

CR-X	See X-CR. Chloroprene rubber with reactive groups.	EPS	Expanded polystyrene or foamed polystyrene. PS-E or XPS or PS-X.
CSM	Chlorosulphonylpolyethylene or, chlorosulphonated polyethylene or, chlorosulphonated polyethylene rubber.	ETE	See AECO. Allyl-group-containing-epichlorhydrin rubber.
CTA	Cellulose triacetate.	ETER	See AECO. Allyl-group-containing-epichlorhydrin rubber.
DAIP	Diallyl isophthalate.	ETFE	Tetrafluoroethylene-ethylene copolymer or, poly-(tetrafluoroethylene-co-ethylene) or, ethylene-tetrafluoroethylene copolymer. TEP.
DAP	Diallyl phthalate.	EU	Polyurethane rubber (ether based). PEUR or PU or PUR
DMC	Dough moulding compound - a polyester moulding compound or PMC.	EVA	Ethylene-vinyl acetate or, ethylene-vinyl acetate copolymer.
DP-NR	Deproteinized natural rubber or low nitrogen natural rubber. NR-DP or DP-NR or LN-NR	EVAI	See EVAL. Ethylene-vinyl alcohol.
E-BR	Emulsion butadiene rubber. BR-E.	EVAL	Ethylene-vinyl alcohol or, ethylene-vinyl alcohol copolymer. EVOH or EVAL.
E-SBR	Emulsion styrene butadiene rubber. SBR-E.	EVM	Ethylene-vinyl acetate rubber or copolymer or, EVA rubber or, ethylene-vinyl acetate copolymer. EAM or EVA.
E-SR	Emulsion synthetic rubber. SR-E.	EVOH	See EVAL. Ethylene-vinyl alcohol.
EA	Elastomeric alloy.	FEP	Fluorinated ethylene-propylene copolymer or, tetrafluoroethylene-hexafluoropropylene copolymer or, poly-(tetrafluoroethylene-co-hexafluoropropylene). TFE-HFP.
EA-MPR	Elastomeric alloy melt processable rubber.	FFKM	See PFE. A perfluorinated copolymer elastomer or rubber.
EA-TPV	Elastomeric alloy thermoplastic vulcanizate. See TPV.	FKM	Vinylidene fluoride-hexafluoropropylene copolymer or, poly-(vinylidene fluoride-co-hexafluoropropylene).
EAA	Ethylene-acrylic acid or, ethylene-acrylic acid copolymer.	FPM	Vinylidene fluoride copolymer rubber. A rubber having fluoro and fluoroalkyl, or fluoroalkoxy groups, substituent groups on the polymer chain. See fluororubber.
EAM	Used for ethylene-vinyl acetate rubber and sometimes for ethylene-methyl acrylate rubber. See EVM or AEM.	FRP	Fibre reinforced plastic.
EC	Ethyl cellulose or, cellulose ethyl ether (a cellulose ether). Also see CO.	F RTP	Fibre reinforced thermoplastic.
ECO	Epichlorhydrin copolymer rubber or, ethylene oxide-chloromethyloxiran or, oxiran-chloromethyloxiran. See epichlorhydrin rubber.	FVMQ	Silicone rubber containing fluoro, vinyl and methyl groups. fluorinated rubber or, fluoro silicone rubber or elastomer or, fluoro-silicone rubber or elastomer or, fluorosilicone rubber or elastomer or, silicone rubber containing fluoro, vinyl and methyl groups.
ECTFE	Chlorotrifluoroethylene-ethylene copolymer or, chlorotrifluoroethylene-ethylene alternating copolymer or, poly-(chlorotrifluoroethylene-co-ethylene).	GMT	Glass mat (reinforced) thermoplastics (material).
EEA	Ethylene-ethyl acrylate copolymer.	GPMC	Granular polyester moulding compound a polyester moulding compound (PMC) or, granular moulding compound (GMC).
ENM	See H-NBR. Hydrogenated nitrile rubber.	GPO	Propylene oxide (copolymer) rubber or, propylene oxide-allylglycidyl ether rubber or copolymer. See propylene oxide rubber.
ENR	Epoxidized natural rubber. NR-E.	GPPS	See PS. Polystyrene.
EP	Epoxy or, epoxide or, epoxy resin or epoxide resin or, ethoxyline resin.	GR-S	See SBR. Styrene-butadiene rubber.
EP(D)M	Ethylene-propylene diene monomer or, ethylene-propylene terpolymer. EP(D)M or EPDM (an EPR). An ethylene-propylene rubber.	H-NBR	Hydrogenated nitrile rubber. NBR-H or ENM or HSN.
EPDM	Ethylene-propylene diene monomer. Terpolymer of ethylene, propylene and a diene with the residual unsaturated portion of the diene in the side chain. An ethylene-propylene rubber.	HDPE	High density polyethylene or, high density polyethene or, low pressure polyethylene or, polyethylene-high density. PE-HD.
EPM	Ethylene-propylene monomer or, ethylene-propylene rubber or copolymer or elastomer.		
EPR	Ethylene-propylene rubber or, ethylene-propylene copolymer or, ethylene-propylene diene monomer or, ethylene-propylene elastomer or, ethylene-propylene monomer or, ethylene-propylene terpolymer. EP(D)M, EPM or EPDM		

Table 4. Some abbreviations and names of plastics and elastomers - contd

HEC	Hydroxyethyl cellulose (<i>a cellulose ether</i>).	MF	Melamine-formaldehyde or, melamine-methanal (an aminoplastic).
High cis BR	High cis-polybutadiene rubber.	MPF	Melamine-phenol-formaldehyde.
HIPS	High impact polystyrene or, impact polystyrene or, rubber toughened polystyrene or, toughened polystyrene. TPS or IPS.	MPR	Melt processable rubber.
HSN	Highly saturated nitrile rubber or hydrogenated nitrile rubber See H-NBR.	MQ	Silicone rubber containing methyl groups. dimethylsilicone elastomer or rubber or, methyl silicone rubber or elastomer or, polydimethyl siloxane or, silicone rubber containing methyl groups.
IIR	Butyl rubber or, isobutylene-isoprene rubber or copolymer or, isobutene-isoprene rubber or copolymer or, poly-(1,1-dimethylethylene-co-1-methyl-1-butenylene) poly-(isobutene-co-isoprene).	MR	Methyl rubber or elastomer or, dimethylbutadiene rubber or polymer or, polydimethyl butadiene.
IIR-B	See BIIR. Brominated butyl rubber.	N	A rubber which has nitrogen in the main polymer chain.
IM	Polyisobutylene.	(NBR + PVC)	A nitrile rubber polyvinyl chloride blend.
IPS	See HIPS. High impact polystyrene.	NBR/PVC	Nitrile rubber/PVC blend or, nitrile rubber polyvinyl chloride blend.
IR	Isoprene rubber or, cis-polyisoprene or, cis-1,4-polyisoprene or, polyisoprene or, poly-(2-methyl-1,3-butadiene) or, synthetic natural rubber or, synthetic polyisoprene or, synthetic isoprene rubber or, synthetic polyisoprene rubber.	NBR	Nitrile-butadiene rubber or, nitrile rubber or, butadiene-acrylonitrile rubber or copolymer or, acrylonitrile-butadiene rubber or, poly-(butadiene-co-acrylonitrile) or, poly-(1-butenylene-co-1-cyanoethylene).
L-BR	Solution butadiene rubber. BR-L.	NBR-H	See H-NBR. Hydrogenated nitrile rubber.
L-SBR	Solution styrene-butadiene rubber. SBR-L.	NBR-X	See XNBR. Carboxylated nitrile rubber.
LCP	Liquid crystal polymer or, LC polymer or, mesomorphic polymer.	NCR	Acrylonitrile-chloroprene rubber or, chloroprene acrylonitrile copolymer or rubber.
LDPE	Low density polyethylene or, high pressure polyethylene or, low density polyethene or, polyethylene-low density. PE-LD.	Nd-BR	Butadiene rubber based on a neodymium catalyst.
Li-BR	Butadiene rubber based on a lithium catalyst. BR-Li.	Ni-BR	Butadiene rubber based on a nickel catalyst.
LLDPE	Linear low density polyethylene or, linear low density polyethene or, polyethylene-linear low density. PE-LLD.	NIR	Acrylonitrile-isoprene rubber or, isoprene acrylonitrile copolymer or rubber.
Low cis BR	Low cis-polybutadiene rubber.	NR	Natural rubber or, caoutchouc or, gum elastic or, cis-1,4-polyisoprene or, India rubber or, india rubber or, poly-(1-methyl-1-butenylene).
LSR	Liquid silicone rubber.	NR-DP	See DP-NR. Deproteinized natural rubber. See natural rubber.
M	A rubber which has a saturated chain of the polymethylene type.	NR-E	See ENR. Epoxidized natural rubber. See natural rubber.
MABS	Methyl methacrylate-acrylonitrile-butadiene-styrene copolymer.	NR-OE	See OE-NR. Oil extended natural rubber. See natural rubber.
MBS	Methyl methacrylate-butadiene-styrene copolymer or, methyl methacrylate-styrene-polybutadiene.	O	A rubber which has oxygen in the main polymer chain. Rubbers which contain an ether-group contain the letter O.
MC	Methyl cellulose. A cellulose ether.	OE-BR	Oil extended butadiene rubber. BR-OE.
MDPE	Medium density polyethylene or polyethene or, polyethylene-medium density or, polyethene-medium density. PE-MD.	OE-NR	Oil extended natural rubber. NR-OE.
Medium cis BR	Medium cis-polybutadiene rubber.	OENR	See OE-NR. Oil extended natural rubber.
		OPET	Oriented polyethylene terephthalate. PET-O.
		OPP	Oriented polypropylene. PP-O.
		OPS	Oriented polystyrene. PS-O.

Table 4 - contd

OPVC	Oriented polyvinyl chloride. PVC-O.	PAA 6	<i>Polyaryl amide</i> or, poly-(m-xylyleneadipamide or, aromatic polyamide. PAMXD6.
P4MP1	<i>Poly-(4-methylpentene-1)</i> or, polyisobutylethylene or, poly-(4-methylpent-1-ene).	PABM	<i>Polyaminobismaleimide</i> or, polybismaleimide or, polymaleimide.
PA	<i>Nylon</i> or, polyamide.	PAI	Polyamide-imide.
PA 11	<i>Nylon 11</i> or, polyamide 11 or, poly-(11-amino-undecanoic acid) or, polyundecanoamide.	PAMXD6	See PAA 6. <i>Polyaryl amide</i> .
PA 12	<i>Nylon 12</i> or, polyamide 12 or, polylauroamide or, polylauryllactam or, polydodecanoamide.	PAN	<i>Polyacrylonitrile</i> or, polyvinyl cyanide.
PA 4	<i>Nylon 4</i> or, polyamide 4 or, polypyrrolidone.	PAUR	<i>Polyurethane rubber</i> (ester based).
PA 46	<i>Nylon 46</i> or, polyamide 46 or, polytetramethyleneadipamide or, polytetramethylene adipamide.	PB	See BR. <i>Butadiene rubber</i> .
PA 6/66	<i>Nylon 6/66</i> or, polyamide 6/66.	PB	<i>Polybutylene</i> or, polybutene or, poly-1-butene or, polybut-1-ene or, polybutene-1 or polyethylethylene.
PA 6	<i>Nylon 6</i> or, polyamide 6 or, poly-(ω -amino-caproamide) or, poly-(6-aminocaproic acid) or, poly-(ω -aminocaproic acid) or, polycaproamide or, polycaprolactam or, poly-(imino-1-oxohexamethylene).	PBA	See TPE-A. <i>Thermoplastic elastomer - amide based</i> .
PA 6/66/610	<i>Nylon 6/66/610</i> or, polyamide 6/66/610.	PBD	See BR. <i>Butadiene rubber</i> .
PA 610	<i>Nylon 610</i> or, polyamide 610 or, polyhexamethylenesebacamide polyhexamethylene sebacamide.	PBI	Polybenzimidazole.
PA 612	<i>Nylon 612</i> or, polyamide 612 or, polyhexamethylenedodecanoamide or, polyhexamethylene dodecanoamide.	PBO	Paraphenylene polybenzobisoxazole.
PA 66	<i>Nylon 66</i> or, polyamide 66 or, polyhexamethyleneadipamide or, polyhexamethylene adipamide or, poly-[imino-(1,6-dioxohexamethylene)-iminohexamethylene].	PBT	<i>Polybutylene terephthalate</i> or, polytetramethylene terephthalate or, poly-(oxytetramethylene-oxyterephthalate). (a thermoplastic polyester - see also PET). PTMT.
PA 69	<i>Nylon 69</i> or, polyamide 69 or, polyhexamethylenenonamide or, polyhexamethylene nonamide or, polyhexamethyleneazelaamide.	PBZ	Polybenzobisoxazole.
PA 6T	<i>Nylon 6T</i> or, polyamide 6T or, polyhexamethyleneterephthalamide or polyhexamethylene terephthalamide.	PC	<i>Polycarbonate</i> or, bisphenol A polycarbonate or, poly-(4,4'-isopropylidenediphenylene carbonate) or, poly-(oxy-1,4-phenylene-dimethylmethylen-1,4-phenylene-oxy-carbonyl).
PA 91	<i>Nylon 91</i> or, polyamide 91 or, polynonamethyleneurea.	PCTFE	Polychlorotrifluorethylene.
		PE	<i>Polyethylene</i> or, polyethene or, poly(ethylene).
		PE-C	See CM. <i>Chlorinated polyethylene</i> .
		PE-HD	See HDPE. <i>High density polyethylene</i> .
		PE-LD	See LDPE. <i>Low density polyethylene</i> .
		PE-LLD	See LLDPE. <i>Linear low density polyethylene</i> .
		PE-MD	See MDPE. <i>Medium density polyethylene</i> .
		PE-VLD	See VLDPE. <i>Very low density polyethylene</i> .
		PEBA	See TPE-A. <i>Thermoplastic elastomer - amide based</i> .
		PEC	Phenylene ether copolymer.
		PEEK	<i>Polyether ether ketone</i> or, polyetherether ketone.
		PEEL	See TPE-E. <i>Thermoplastic elastomer - ether based</i> .
		PEI	<i>Polyether imide</i> or, polyetherimide.

Table 4. *Some abbreviations and names of plastics and elastomers - contd*

PEK	<i>Polyether ketone</i> or, polyetherketone.	PO	Propylene oxide (homopolymer) rubber. See <i>propylene oxide rubber</i> .
PEKK	<i>Polyether ketone ketone</i> or, polyetherketone ketone.	PO	Polyolefin.
PEO	See <i>PEOX</i> . <i>Polyethylene oxide</i> .	POD	Polyphenylene-1,3,4-oxadiazole.
PEOX	Polyethylene oxide. PEO.	POM	<i>Acetal</i> or, acetal homopolymer and/or, acetal copolymer or, polyacetal or, polyformaldehyde or, polyoxymethylene. POM-H or POM-CO.
PES	<i>Sulphone polymer</i> or, polyarylenesulphone or, polyaryl ether sulphone or, polyaryl sulphone or, polyether sulphone or, polyethersulphone or, polysulphone. PSU.	POM-CO	Acetal copolymer. See <i>acetal</i> .
PET	Polyethylene terephthalate, (a thermoplastic polyester). PETP.	POM-H	Acetal homopolymer. See <i>acetal</i> .
PET-O	See <i>OPET</i> . Oriented polyethylene terephthalate.	POM-K	See <i>POM-CO</i> and <i>acetal</i> .
PETG	Polyethylene terephthalate glycol.	(PP + EPDM)	See <i>RMPP</i> . Rubber modified polypropylene.
PETP	See <i>PET</i> . <i>Polyethylene terephthalate</i> .	PP/EPDM	See <i>RMPP</i> . Rubber modified polypropylene.
PEUR	<i>Polyurethane rubber</i> (ether based).	PP	<i>Polypropylene</i> or, polymethyl ethylene or, polypropene or, poly(propylene). PP-H or PP-CO or PPR.
PF	<i>Phenol-formaldehyde</i> or, phenol-methanal or, phenoplast.	PP-A	See <i>APP</i> . <i>Atactic polypropylene</i> . See <i>polypropylene</i> .
PFA	<i>Perfluoroalkoxy copolymer</i> or, perfluoroalkylvinyl ether polymer or copolymer or, polyperfluoroalkylvinyl ether.	PP-CO	Polypropylene copolymer. See <i>polypropylene</i> .
PFE	<i>Perfluorinated elastomer or rubber</i> or, tetrafluoroethylene-perfluoromethylvinyl ether copolymer or, poly-(tetrafluoroethylene-co-perfluoromethylvinyl ether). FFKM.	PP-H	Polypropylene homopolymer. PP. See <i>polypropylene</i> .
PHB	Polyhydroxybutyrate.	PP-K	See <i>PP-CO</i> . Polypropylene copolymer. See <i>polypropylene</i> .
PI	Polyimide.	PP-O	See <i>OPP</i> . Oriented polypropylene.
PIB	<i>Polyisobutylene</i> or, polyisobutene.	PPE	Polyphenylene ether. Usually polyphenylene oxide or, <i>polyphenylene oxide (modified)</i> . PPO or PPO-M.
PIR	Polyisocyanurate.	PPO	<i>Polyphenylene oxide (modified)</i> or, modified poly-(phenylene oxide) or, poly-(2,6-dimethylphenol) or, poly-(2,6-dimethyl-1,4-phenylene oxide). PPO or, PPO-M or PPE.
PMA	Polymethyl acrylate.	PPO-M	See <i>PPO</i> . <i>Polyphenylene oxide (modified)</i> .
PMC	Polyester moulding compound. bulk moulding compound (BMC) continuous roving moulding compound - a wound moulding compound (XMC) continuously impregnated compound (CIC) dough moulding compound (DMC) granular moulding compound (GPMC or GMC) low viscosity moulding compound (ZMC) sheet moulding compound (SMC) thick moulding compound (TMC).	PPOX	Polypropylene oxide.
PMMA	<i>Polymethyl methacrylate</i> or, acrylic or, poly-[1-(methoxycarbonyl)-1-methylethylene].	PPPS	Polyphenylene sulphide sulphone.
PMQ	<i>Silicone rubber</i> containing methyl and phenyl groups. methylphenylsilicone elastomer or rubber or, phenylsilicone rubber or elastomer.	PPR	See <i>PP</i> . <i>Polypropylene</i> .
PNF	<i>Polyfluorophosphazene rubber</i> or, fluorophosphonitrilic polymer or, fluoropolyphosphazene rubber or polymer.	PPS	<i>Polyphenylene sulphide</i> or, poly-(p-phenylene sulphide) or, poly-(thio-1,4-phenylene) or, sulphide polymer.
PNR	<i>Polynorbornene</i> or, polynorbornene rubber.	PPSU	Polyphenylene sulphone.
		PPVC	<i>Plasticized polyvinyl chloride</i> or, plasticised polyvinyl chloride or, polyvinyl chloride-plasticized or, plasticized polychloroethene. PVC-P.
		PPX	Poly-p-xylene.
		PS	<i>Polystyrene</i> or, general purpose polystyrene or, polyphenylethylene or, poly-(1-phenylethylene) or, polvinylbenzene. PS-GP or GPPS.

Table 4 - contd

PS-E	See <i>EPS</i> .	R	A rubber which has unsaturated carbon chain, for example, natural rubber and synthetic rubbers derived at least partly from diolefins.
PS-GP	See <i>PS</i> . Polystyrene.	RMPP	<i>Rubber modified polypropylene</i> or, rubber reinforced polypropylene or, rubber toughened polypropylene. (PP + EPDM) or RRPP or PP/EPDM.
PS-O	See <i>OPS</i> . Oriented polystyrene.	RPVC	See <i>UPVC</i> . Unplasticized polyvinyl chloride.
PS-X	See <i>EPS</i> . Expanded polystyrene.	RRPP	See <i>RMPP</i> . Rubber modified polypropylene.
PSU	See <i>PES</i> . Sulphone polymer.	SAN	<i>Styrene-acrylonitrile copolymer</i> or, poly-(1-phenylethylene-co-1-cyanoethylene) or, poly-(styrene-co-acrylonitrile).
PTFE	<i>Polytetrafluoroethylene</i> or, poly-(tetrafluoroethylene).	SB	<i>Styrene-butadiene copolymer</i> or, butadiene-styrene copolymer or, poly-(styrene-co-butadiene).
PTMT	See <i>PBT</i> . Polybutylene terephthalate.	SBB	See <i>BDS</i> . Styrene-butadiene block copolymer.
PU	See <i>PUR</i> . Polyurethane.	SBR	Styrene-butadiene rubber or, poly-(1-butenylene-co-phenylethylene).
PUR	<i>Polyurethane</i> or, polycarbamate. PU.	SBR-E	See <i>E-SBR</i> . Emulsion styrene butadiene rubber.
PVA	See <i>PVAC</i> and also <i>PVAL</i> . Polyvinyl acetate and polyvinyl alcohol.	SBR-L	See <i>SBR-L</i> . Solution styrene-butadiene rubber.
PVAC	<i>Polyvinyl acetate</i> or, poly-(vinyl acetate). PVA or PVAc.	SBS	See <i>TPE-S</i> . Styrene-butadiene-styrene block copolymer or, poly-(1-phenylethylene-b-1-butenylene-b-1-phenylethylene). This is a linear block copolymer or a, SBS block copolymer or, SBS block polymer or, styrene triblock copolymer or, teleblock copolymer or, thermoplastic elastomer-styrene based.
PVAI	See <i>PVAL</i> . Polyvinyl alcohol.	SCR	Styrene-chloroprene rubber or, chloroprene-styrene copolymer or rubber. See <i>chloroprene rubber</i> .
PVAL	<i>Polyvinyl alcohol</i> or, poly-(vinyl alcohol). PVA or PVAI.	SEBS	See <i>TPE-S</i> . Styrene-ethylene/butylene-styrene block copolymer or, styrene olefin thermoplastic elastomer. See <i>thermoplastic elastomer-styrene based</i> .
PVC	<i>Polyvinyl chloride</i> or, polychloroethene or poly-(1-chloroethylene) or, poly-(monochloroethylene).	SI	<i>Silicone plastics or resins</i> or, methyl-phenylsilicone resins.
PVC-C	See <i>CPVC</i> . Chlorinated polyvinyl chloride.	SIR	Styrene-isoprene rubber or, isoprene-styrene rubber
PVC-O	See <i>OPVC</i> . Oriented polyvinyl chloride.	SIS	See <i>TPE-S</i> . Styrene-isoprene-styrene block copolymer. A thermoplastic elastomer-styrene based.
PVC-P	See <i>PPVC</i> . Plasticized polyvinyl chloride.	SMA	<i>Styrene maleic anhydride</i> or, poly-(styrene-co-maleic anhydride) or, styrene-maleic anhydride copolymer.
PVC-R	Rigid polyvinyl chloride (RPVC). See <i>UPVC</i> . Unplasticized polyvinyl chloride.	SMC	Sheet moulding compound a polyester moulding compound or PMC.
PVC-U	See <i>UPVC</i> . Unplasticized polyvinyl chloride.	SR	Synthetic rubber.
PVCZ	See <i>PVK</i> . Polyvinyl carbazole.	SR-E	See <i>E-SR</i> . Emulsion synthetic rubber.
PVdC	See <i>PVDC</i> . Polyvinylidene chloride.	T	A rubber which has sulphur, carbon and oxygen in the main polymer chain.
PVDC	<i>Polyvinylidene chloride</i> or, high-vinylidene copolymer or, poly-(1,1-dichloroethylene) or, polyvinylidene chloride copolymer or, poly-(vinylidene chloride). PVdC.	T	A thermoplastics material.
PVDF	<i>Polyvinylidene fluoride</i> or, poly-(1,1-difluoroethylene). PVF ₂ .	T	<i>Polysulphide rubber</i> or, elastothiomers or, thioplast. TM or TR.
PVF	Polyvinyl fluoride.		
PVF ₂	See <i>PVDF</i> . Polyvinylidene fluoride.		
PVK	<i>Polyvinyl carbazole</i> or, poly-(N-vinyl carbazole). PVK or PVCZ.		
PVMQ	<i>Silicone rubber</i> containing methyl, phenyl and vinyl groups.		
PVP	<i>Polyvinyl pyrrolidone</i> or, poly-(N-vinyl-2-pyrrolidone).		
Q	<i>Silicone rubber</i> or, silicone elastomer or, polysiloxane rubber.		

Table 4. Some abbreviations and names of plastics and elastomers - contd

TC-NR	Technically classified (natural) rubber.	TPE-OXL	Thermoplastic elastomer-olefin based with crosslinked rubber. TPE-OXL or TPO-XL.
TE	<i>Thermoplastic elastomer.</i>	TPE-S	<i>Thermoplastic elastomer - styrene based.</i> A styrene triblock copolymer. TPE-S or SBS - usually styrene-butadiene-styrene block copolymer but could also be, styrene-ethylene/butylene-styrene block copolymer (TPE-S or SEBS) or styrene-isoprene-styrene block copolymer (TPE-S or SIS).
TE-EE	See <i>TPE-E. Thermoplastic elastomer - ether based.</i>	TPE-U	<i>Thermoplastic elastomer - urethane based.</i> thermoplastic polyurethane or, thermoplastic urethane elastomer. TPU.
TFE-HFP	See <i>FEP. Fluorinated ethylene propylene.</i>	TPE-XL	Thermoplastic elastomer - crosslinked rubber.
TM	See <i>T. Polysulphide rubber.</i>	TPE-XLV	See <i>TPV. Thermoplastic vulcanizate.</i>
TMC	Thick moulding compound. - a polyester moulding compound or PMC.	TPO	See <i>TPE-O. Thermoplastic elastomer - olefin based.</i>
TOR	Transpolyoctenamer. <i>Polyoctenamer</i> rubber.	TPO-XL	See <i>TPE-OXL. Thermoplastic elastomer-olefin based with crosslinked rubber.</i>
TP-EE	See <i>TPE-E. Thermoplastic elastomer - ether based.</i>	TPR	See <i>TPE.</i>
TP	A thermoplastics material.	TPS	See <i>HIPS. High impact polystyrene.</i>
TP-EPDM	See <i>TPE-EPDM. Thermoplastic ethylene-propylene elastomer or rubber.</i>	TPU	See <i>TPE-U. Thermoplastic elastomer - urethane based.</i>
TP-EVA	See <i>TPE-EVA. Thermoplastic elastomer - ethylene-vinyl acetate elastomer.</i>	TPV	Thermoplastic vulcanizate. EA-TPV or TPE-XL.
TP-NBR	See <i>TPE-NBR. Thermoplastic nitrile-butadiene elastomer.</i>	TR	See <i>T. Polysulphide rubber.</i>
TP-NR	See <i>TPE-NR. Thermoplastic natural rubber.</i>	TSR	Technically specified (natural) rubber. CNR - technically specified (natural) rubber from China. SIR - technically specified (natural) rubber from Indonesia. SMR - technically specified (natural) rubber from Malaysia. SLR - technically specified (natural) rubber from Sri Lanka. TTR - technically specified (natural) rubber from Thailand.
TPA	Transpolypentenamer. <i>Polypentenamer</i> rubber.	U	A rubber which has carbon, oxygen and nitrogen in the main polymer chain.
TPE	<i>Thermoplastic elastomer (or rubber).</i>	UF	<i>Urea-formaldehyde or, urea-methanal. (an aminoplast).</i>
TPE-A	<i>Thermoplastic elastomer - amide based or, elastomeric polyamide or, polyamide elastomer or, polyether block amide or, thermoplastic copolyether or, thermoplastic elastomer - amide based. PEBA or PBA.</i>	ULDPE	See <i>VLDPE. Very low density polyethylene.</i>
TPE-E	<i>Thermoplastic elastomer - ether based or, block polyetherester or, copolyetherester or, polyether ester or, polyether ester block copolymer or, polyether ester elastomer or, polyester elastomer or, thermoplastic copolyester or, thermoplastic ether ester or, thermoplastic polyetherester or, thermoplastic polyetherester. PEEL or, COPE or, TP-EE or TEEE or Y-BPO.</i>	UP	Unsaturated polyester.
TPE-EPDM	<i>Thermoplastic ethylene-propylene elastomer or rubber. TPE-EPDM or TP-EPDM.</i>	UPVC	<i>Unplasticized polyvinyl chloride or, rigid polyvinyl chloride or, rigid PVC or, unplasticized polychloroethene or, unplasticised polyvinyl chloride. PVC-U or RPVC or PVC-R.</i>
TPE-EVA	Thermoplastic elastomer - ethylene-vinyl acetate elastomer. TP-EVA.	VCA	<i>Vinyl chloride-acrylonitrile copolymer or, poly-(vinyl chloride-co-acrylonitrile).</i>
TPE-FKM	Thermoplastic fluoro elastomer.	VCE	<i>Vinyl chloride-ethylene copolymer or, poly-(vinyl chloride-co-ethylene).</i>
TPE-I	Thermoplastic isoprene rubber. TPE-S or Y-IR.	VCEVA	<i>Vinyl chloride-ethylene-vinyl acetate terpolymer.</i>
TPE-NBR	<i>Thermoplastic nitrile-butadiene elastomer or, thermoplastic nitrile-butadiene rubber. TP-NBR or Y-NBR.</i>	VCP	<i>Vinyl chloride-propylene copolymer or, poly-(vinyl chloride-co-propylene).</i>
TPE-NR	<i>Thermoplastic natural rubber. TP-NR.</i>	VCVA	<i>Vinyl chloride-vinyl acetate copolymer or, polyvinyl chloride-acetate copolymer or, poly-(vinyl chloride-co-vinyl acetate). PVCA.</i>
TPE-O	<i>Thermoplastic elastomer - olefin based or, thermoplastic polyolefin or, olefin thermoplastic elastomer. TPO.</i>		

Table 4 - contd

VDCA	<i>Vinylidene chloride-vinyl chloride copolymer or poly-(vinylidene chloride-co-vinyl chloride).</i>	XNBR	Carboxylic-nitrile rubber or, <i>carboxylated nitrile rubber.</i>
VDVA	<i>Vinylidene chloride-acrylonitrile copolymer or, poly-(vinylidene chloride-co-acrylonitrile).</i>	XBR	Carboxylic-butadiene rubber or, <i>carboxylated butyl rubber.</i> See <i>halogenated butyl rubber.</i>
VE	Vinyl ester resin.	XMC	Continuous roving moulding compound - a wound moulding compound - a <i>polyester moulding compound</i> or PMC.
VLDPE	<i>Very low density polyethylene or, polyethylene-very low density or, polyethene-very low density or, ultra low density polyethylene. PE-VLD or ULDPE.</i>	XPS	See <i>EPS. Expanded polystyrene.</i>
VMQ	<i>Silicone rubber</i> containing methyl and vinyl groups.	Y	When used as a prefix indicates a thermoplastic elastomer.
VP	<i>Vinyl pyridine rubber</i> or copolymer or, butadiene-vinyl pyridine copolymer.	YBPO	See <i>TPE-E. Thermoplastic elastomer - ether based.</i>
X	Denotes the presence in a rubber of the reactive carboxylic (COOH) group.	YNBR	See <i>TPE-NBR. Thermoplastic nitrile-butadiene elastomer.</i>
XCR	Carboxylic-chloroprene rubber or, <i>carboxylated chloroprene rubber.</i>	Z	A rubber which has nitrogen and phosphorous in the main polymer chain.
		ZMC	Low viscosity moulding compound - a <i>polyester moulding compound</i> or PMC.

Table 5a. *Some trade names/trade marks, abbreviations and suppliers of polymers and polymer moulding compounds (sorted by alphabetical order of trade name)*
Key for Table 5a on p. 517

<i>Trade name/trade mark</i>	<i>Abbreviation</i>	<i>Supplier</i>
Aclyn	ION	Allied Signal Inc.
Acrylite	PMMA	Canada Color & Chemicals
Admer	PO	Mitsui Sekka
Adpro	PP	Advanced Global Polymers
Airvol	PVAL	Air Products and Chemicals Inc.
Akulon	PA 6	DSM (Dutch State Mines)
Akulon	PA 66	DSM (Dutch State Mines)
Akuloy	PA/PP	DSM (Dutch State Mines)
Alcoryl	ABS	Rhône-Poulenc Chimie
Alcryn	TPE EA-TPV	Du Pont
Altuglas	PMMA	Elf Atochem S.A.
Altulite	PMMA	Altulor
Amoco PE-HD	PE-HD	Amoco Performance Products
Amodel	PPA	Amoco Performance Products
Ampal	UP	Ciba Geigy
Apec	PC-HT	Bayer
Apel	PO-A	Mitsui Sekka
Appryl	PP	Appryl
Appryl	PP	Elf Atochem S.A.
Apscom	TP-COM	DSM (Dutch State Mines)
Araldite	EMC	Ciba Geigy
Araldite	EP	Ciba Geigy
Arcel	PE-X	Arco
Arcomid	PA 6	Resinmec
Arcomid	PA 66	Resinmec
Arcoplen	PP	Resinmec
Ardel	Polyarylate	Amoco Performance Products
Arlen	PA	Mitsui Sekka
Arnite	PBT	DSM (Dutch State Mines)
Arnite	PET	DSM (Dutch State Mines)
Arnitel	TPE-E	DSM (Dutch State Mines)
Aropol	PMC	Ashland Chemical Co.
Arpro	PP-X	Arco
Arpylene	PP-COM	Hydro Polymers
Arrhadur	ABS	Elf Atochem S.A.
Arylon T	ABS/PSU	USS Chemicals
Ashlene	PA 6	Ashley Polymers Inc.
Ashlene	PA 612	Ashley Polymers Inc.
Ashlene	PA 66	Ashley Polymers Inc.
Ashlene	PA-amorphous	Ashley Polymers Inc.
Astryl	PP-COM	Himont
Attane	PE-VLD	Dow
Avalon	TPE-U	ICI
Azdel	GMT/PP	Azdel Inc.
Azloy	GMT/PC/PBT	Azdel Inc.
Azmet	GMT/PBT	Azdel Inc.
Bakelite	PF	Bakelite/Sterling
Bakelite Polyester Alkyd	GPMC	Sterling Moulding Materials
Bapolan	PS	Bamberger
Bapolene	PE-HD	Bamberger
Bapolene	PP	Bamberger
Barex	PAN	Sohio
Barex	PAN	Standard Oil
Basopor	UF	BASF
Bayblend	ABS/PC	Bayer
Baycomp	FF-TP	Baycomp
Bayer CM	CPE	Bayer
Baygal	PUR resins	Bayer
Baymidur	PUR resins	Bayer
Baymod A	ABS modifier	Bayer
Baymod L	EVA modifier	Bayer
Baypren	CR	Bayer
Beaulon	PB	Mitsui Sekka

Table 5a - contd

<i>Trade name/trade mark</i>	<i>Abbreviation</i>	<i>Supplier</i>
Beetle	MF resins	BIP Chemicals
Beetle	PC	BIP Chemicals
Beetle	POM	BIP Chemicals
Beetle	UF	BIP Chemicals
Beetle	UF resins	BIP Chemicals
Beetle	UP resins	BIP Chemicals
Beetle DMC	DMC	BIP Chemicals
Beetle nylon 6	PA 6	BIP Chemicals
Beetle nylon 66	PA 66	BIP Chemicals
Beetle PBT	PET	BIP Chemicals
Beetle PET	PET	BIP Chemicals
Benvic	PVC	Solvay
Benvic EV	PVC-GF	Solvay
Bergacell	CA	Bergmann
Bergadur	PBT	Bergmann
Bergamid A	PA 66	Bergmann
Bergamid B	PA 6	Bergmann
Bergaprop	PP	Bergmann
Bexloy	ETP	Du Pont
Bioceta	CA-BIO	Tubize Plastics
Biopol	PHB-CO	ICI
Biopol	PHB-H	ICI
BP Polystyrene	PS	BP Chemicals
Buna AP	EPDM	Hüls
Buna CB	BR	Bayer
Buna EM	SBR-E	Hüls
Buna SL	SBR-L	Hüls
Buna V	SBR-L	Hüls
Butachlor	CR	Distugil
Bynel	PO	Du Pont
Cabelec	PP-conductive	Cabot Plastics
Cadon	SMA	Monsanto
Cadon 300	SMA-impact modified	Monsanto
Calibre	PC	Dow
Caprolan	TPE-U	Elastogran/BASF
Capron	PA 6	Allied Signal Inc.
Carbaicar	UF	S A Aicar
Carbopol	Acrylic acid	BF Goodrich
Carboset	Acrylic polymer	BF Goodrich
Cariflex	SR	Shell
Cariflex	TPE-S (SBS)	Shell
Caril	PPO-M	Shell
Carinex	PS-HI	Shell
Celanese Nylon	PA 66	Hoechst/Hoechst Celanese
Celanex	PBT	Hoechst/Hoechst Celanese
Celanex	PBT-GF	Hoechst/Hoechst Celanese
Cellasto	PUR-X	BASF
Cellidor	CA	Albis
Cellidor	CAP	Albis
Celsir	UF resins	SIR (Società Italiana Resine)
Celstran	TP-LF	Hoechst/Hoechst Celanese
Centrex	ASA/AES	Advanced Elastomer Systems
Cevian	ABS-FR	Hoechst Daicel Polymers
Clarene	EVOH	Solvay
Clearflex	PE-LLD	Enichem
Corton	PP-COM	Poly Pacific Pty
Corvic	PVC	European Vinyl Corp.
Crastine	PBT	Du Pont
Craston	PPS	Ciba Geigy
Cristamaid	PA-CO	Elf Atochem S.A.
Crystic	UP	Scott Bader
Crystic Impel	GPMC	Scott Bader
Crystic Impreg	PMC	Scott Bader
Crystic Kollerdur	PUR	Scott Bader
Crystic Kollernox	EP	Scott Bader

Table 5a. *Some trade names/trade marks, abbreviations and suppliers of polymers and polymer moulding compounds (sorted by alphabetical order of trade name) - contd*

<i>Trade name/trade mark</i>	<i>Abbreviation</i>	<i>Supplier</i>
Cyanacryl	ACM	Enichem
Cyanacryl	ACM	Enichem
Cycolac	ABS	General Electric Co.
Cycoloy	ABS-AL	General Electric Co.
Cymel	MF	Cyanamid
DAIP 6000	DAIP	Synres Amoco
DAP 5000	DAP	Synres Amoco
Daplen	PE-HD	Chemie Linz
Daplen	PE-LD	Chemie Linz
Daplen	PP	Chemie Linz
Daplen	PP-COM	Chemie Linz
Degadur	MMA-resins	Degussa AG
Degalan	PMMA-CO	Degussa AG
Degalan LP	PMMA-CO	Degussa AG
Degalan S	MMA-resins	Degussa AG
Degament	MMA-resins	Degussa AG
Delrin	POM-H	Du Pont
Delrin 100 ST	POM-H (HI)	Du Pont
Delrin II	POM-H	Du Pont
Delrin P	POM-H	Du Pont
DER	EP	Chemroy Canada
Derakane	VE	Dow
Desmopan	TPE-U	Bayer
Dexel	CA	Courtaulds Speciality Plastics
Dexel S	CA	Courtaulds Speciality Plastics
Dexflex	TPE-O	Dexter Plastics
Diakon	PMMA	ICI
Dialac	ASA	Misubishi
Dimension	PA/PPE	Allied Signal Inc.
Dion	UP	Fiberglass
Disco	DCF	Technical Fibre Products
Dowlex	PE-LD	Dow
Dowlex	PE-LLD	Dow
DSM Nyrin	RIM PA	DSM RIM Nylon
Du Pont 20 series	PE	Du Pont
Dunlocrumb	NR-TSR	Dunlop Plantations
Dunlocrumb S	NR-skim rubber	Dunlop Plantations
Duraflex	PIB	Shell
Dural	UPVC-COM	Dexter Plastics
Duralex	PVC/PU/NBR AL	Dexter Plastics
Duralon	PA 11	Thermoclad
Duranit	SBR	Hüls
Durapol	PMC	Isola Werke
Durethan	PA 6	Bayer
Durethan	PA 66	Bayer
Durethan	PA 66	Mobay
Durethan	PA 66-GF	Bayer
Durethan	PA 6-GF	Bayer
Durez	DAP	Occidental
Durez	PF	Occidental
Dutral	EPR	Enichem
Dyflor	PVDF	Dynamit Nobel
Dyflor	PVDF	Hüls
Dyflor	PVDF	Kay Fries
Dylile	PS-X	Arco
Dynaform	TPE-RMPP	Dynamit Nobel
Dynapor	PF-resin-X	Hüls
Dynaset	PF	Reichhold
Dynat	NR-TSR	KGSB
Dynat S	NR-skim rubber	KGSB
Dytron XL	TPE-OXL	Advanced Elastomer Systems
Eccomold	EP	Emmerson and Cuming
Ecdel	TPE-E	Eastman Chemicals
Ecolyte	TP-photodegradable	Ecoplastics/Eco Chemicals

Table 5a - contd

<i>Trade name/trade mark</i>	<i>Abbreviation</i>	<i>Supplier</i>
Ecolyte II & IV	PE	Ecoplastics/Eco Chemicals
Ecolyte S	PS	Ecoplastics/Eco Chemicals
Edistir	PS	Enichem
Edistir	PS-HI	Enichem
Elastocoat	PUR-coating	BASF
Elastollan	TPE-U	BASF/Elastogran
Elastopal	PUR-casting	BASF
Elastopreg	GMT laminates	BASF/Elastogran
Elexar	TPE	Shell
Elmit	PA-COM	Mitsui Sekka
ELP	T-liquid	Morton International
Eltex	PE-HD	Solvay
Eltex P	PP-CO	Solvay
Eltex P	PP-H	Solvay
Elvaloy	PO-CO	Du Pont
Elvamide	PA	Du Pont
Elvanol	EVOH	Du Pont
Elvax	EVA	Du Pont
EMI-X	TP-EMI	LNP Engineering Plastics Inc.
Empee PP	PP	Monmouth Plastics
Envex	PI-COM	Rogers Corp
Epikote	EP resins	Shell
Epoester	EP resins	SIR (Società Italiana Resine)
Epolan	ABS	Industrial Resistol
Epomik	EP resin	Mitsui Sekka
Epon	EP	Shell
Eponac	EP	SPREA
Eponite	EP-COM	Shell
Eposir	EP resins	SIR (Società Italiana Resine)
Epox	EP-COM	Mitsui Sekka
Epoxyprene	NR-E	KGSB
Eraclene	PE-HD	Enichem
Eref	PP	Solvay
ERF DMC	DMC	ERF
ERF SMC	SMC	ERF
Ertalan	PA-cast	Erta
Escor EAA	EAA	Exxon Chemical
Escorene	PE-LD	Exxon Chemical
Escorene	PE-LLD	Exxon Chemical
Escorene	PE-LLD/EVA (<5%)	Exxon Chemical
Escorene Optema	EMA	Exxon Chemical
Escorene PP	PP	Exxon Chemical
Escorene Ultra	EVA	Exxon Chemical
Escorene α	PE-LLD (a HAO)	Exxon Chemical
Esrel	TPE-E	Cheil Synthetics Inc.
Estaloc	TPE-U (COM)	BF Goodrich
Estane	TPE-U	BF Goodrich
Esterform	PMC	Chromos Ro-Polimeri
ETA	TPE	Republic Plastics
Ethocel	EC	Dow
Europrene	ACM	Enichem
Europrene	BR	Enichem
Europrene	NBR	Enichem
Europrene	NBR/PVC	Enichem
Europrene	SBR	Enichem
Europrene	TPE-S (SBS)	Enichem
Europrene	TPE-S (SIS)	Enichem
Eval	EVOH	Kuraray/EVAL Co
Evatane	EVA	Elf Atochem S.A.
EVOH SF	EVOH	Elf Atochem S.A.
Evoprene	TPE	Evode Plastics Ltd.
Evoprene E	TPE	Evode Plastics Ltd.
Evoprene G	TPE	Evode Plastics Ltd.
Evoprene Super S	TPE	Evode Plastics Ltd.
Extir	PS-X	Enichem

Table 5a. *Some trade names/trade marks, abbreviations and suppliers of polymers and polymer moulding compounds (sorted by alphabetical order of trade name) - contd*

<i>Trade name/trade mark</i>	<i>Abbreviation</i>	<i>Supplier</i>
Exxelor	modifiers-plastics	Exxon Chemical
Exxon Bromobutyl	IIR-X	Exxon Chemical
Exxon Butyl	IIR	Exxon Chemical
Exxon Chlorobutyl	IIR-X	Exxon Chemical
FA	T-millable	Morton International
Faradex	TP-SS	DSM (Dutch State Mines)
Fenochem	PF	Chemiplastica Spa
Fenoform	PF	Chromos Ro-Polimeri
Ferrolene	PP-COM	Ferro
Ferrolene-TPE	TPE-RMPP	Ferro
Fiberloc	PVC-GF	BF Goodrich
Fibresinol	PF-GF	Raschig
Finaclear	PS/SBS	Petrofina
Finaprene	TPE-SBS	Petrofina
Finapro	PP	Petrofina
Finathene	PE-HD	Petrofina
Finathene	PE-MD	Petrofina
Flexene	PE-LLD	Enichem
Flomat	SMC	Freeman Chemicals
Flowmat	SMC	Freeman Chemicals
Fluon	PTFE	ICI
Fluromelt	PTFE-CO	LNP Engineering Plastics Inc.
Foam Kon	SF-MB	LNP Engineering Plastics Inc.
Forafion	PVDF	Elf Atochem S.A.
Fortiflex	PE-HD	Soltex Polymer Corp
Fortiflex	PE-MD	Soltex Polymer Corp
Fortilene	PP	Soltex Polymer Corp
Fortron	PPS	Hoechst/Hoechst Celanese
Freeflow	GPMC	Freeman Chemicals
FR-TPX	TPX-GF	Mitsui Sekka
Garaprene	TP-AL	Evode Plastics Ltd.
GARY	PVC-COM	Evode Plastics Ltd.
Gedex	PS	Orkem
Gedexcel	PS-X	Elf Atochem S.A.
Geolast	PP/NBR	Advanced Elastomer Systems
Geon	PVC	BF Goodrich
Geon CIM	PVC-COM	BF Goodrich
Geon HTX	PVC-HT	BF Goodrich
Geon RX	PVC-medical	BF Goodrich
Glilax	TPE-A	Dianippon
Goodmer	TPE-O	Mitsui Sekka
Greenflex	EVA	Enichem
Grilamid	PA 12	EMS-Chemie
Grilamid TR	PA-TR	EMS-Chemie
Grilon	PA 6	EMS-Chemie
Grilon C	PA 6/PA 12	EMS-Chemie
Grilon T	PA 66	EMS-Chemie
Grilonit	EP	EMS-Chemie
Grivory	PA-AR	EMS-Chemie
Halar	ECTFE	Ausimont
Halon	PTFE	Ausimont
Haysite	PMC	Haysite Reinforced Plastics
Hercules HPR	PE-HD (HMW)	Hercules
Hetron	PMC	Ashland Chemical Corp.
Hifax	PP-CO	Himont
Higlass	PP-COM	Himont
Hipol	PP	Mitsui Sekka
Hi-zex	PE-HD	Mitsui Sekka
Hi-zex Million	PE-HD UHMW	Mitsui Sekka
Hostacom PP reinforced	PP-COM	Hoechst/Hoechst Celanese
Hostaflon FEP	ETFE	Hoechst/Hoechst Celanese
Hostaflon FEP	FEP	Hoechst/Hoechst Celanese
Hostaflon FEP	PFA	Hoechst/Hoechst Celanese
Hostaflon FEP	PTFE	Hoechst/Hoechst Celanese

Table 5a - contd

<i>Trade name/trade mark</i>	<i>Abbreviation</i>	<i>Supplier</i>
Hostaform	POM-CO	Hoechst/Hoechst Celanese
Hostalen	PE-HD	Hoechst/Hoechst Celanese
Hostalen	PE-MD	Hoechst/Hoechst Celanese
Hostalen GUR	PE-UHMW	Hoechst/Hoechst Celanese
Hostalen PP	PP	Hoechst/Hoechst Celanese
Hostalit	PVC	Hoechst/Hoechst Celanese
Hostalit Z	PVC-HI	Hoechst/Hoechst Celanese
Hostapren	PE	Hoechst/Hoechst Celanese
Hostatec	PEK	Hoechst/Hoechst Celanese
Huntsman Polystyrene	PS	Huntsman
Huntsman Polystyrene	PS-HI	Huntsman
Hyflo	NR-powdered	Golden Hope Plantations
Hypalon	CSM	Du Pont
Hyrub	NR-TSR	Golden Hope Plantations
Hytrel	TPE-E	Du Pont
Idemitsu Polycarbonate	PC	Idemitsu Petro Chem.
Illandur	PMC	Illing
Impact	PET alloy	Allied Signal Inc.
Impel	GPMC	Scott Bader
Impet	PET	Hoechst/Hoechst Celanese
Innovex	PE-LLD	BP Chemicals
Intene	BR	Enichem
Intol	SBR-E	Enichem
Iotek	ION-Na	Exxon Chemical
Iotek	ION-Zn	Exxon Chemical
Isomin	MF	Perstorp
Iupital	POM-CO	Misubishi
Ixan	PVDC	Solvay
Ixef	PAA 6	Solvay
Iztavil	PVC	Polimeros De Mexico
Jonylon	PA 6	BIP Chemicals
Jonylon	PA 66	BIP Chemicals
K F	PVDF	Kureha
Kadel	Polyketone	Amoco Performance Products
Kamax	Acrylic imides	Rohm and Haas
Kane Ace	PVC-C	Kaneka/E W Seward Ltd.
Kane Ace B	MBS	Kaneka/E W Seward Ltd.
Kane Ace PA	Proc. aid-acrylic	Kaneka/E W Seward Ltd.
Kane Ace XEL	PVC-X	Kaneka/E W Seward Ltd.
Kelburon	TPE-RMPP	DSM (Dutch State Mines)
Kelon A	PA 66	Lati
Kelon B	PA 6	Lati
Keltan TP	TPE-RMPP	DSM (Dutch State Mines)
Kematal	POM-CO	Hoechst/Hoechst Celanese
Kerimid	PI	Rhône-Poulenc Chimie
Keripol	PMC	Pheonix
Kinel	PI	Rhône-Poulenc Chimie
Koblend	ABS/PC	Enichem
Kodapek PET	PET	Eastman Chemicals
Kodar PETG	PET-CO	Eastman Chemicals
Kostil	SAN	Enichem
Kraton TR	TPE-S (SBS)	Shell
Kynar	PVDF	Elf Atochem S.A.
Kynar	PVDF	Penwalt
K-resin	BDS	Phillips Petroleum Chemicals
Lacovyl	PVC	Elf Atochem S.A.
Lacovyl	VC/VA	Elf Atochem S.A.
Lacqrene	PS	Elf Atochem S.A.
Lacqrene	PS-COM	Elf Atochem S.A.
Lacqrene	PS-HI	Elf Atochem S.A.
Lacqtene HD	PE-HD	Elf Atochem S.A.
Lacqtene HX	PE-LLD	Elf Atochem S.A.
Lacqtene LX	PE-LLD	Elf Atochem S.A.
Ladene	PE-LLD	Sabic
Larflex	TPE-EPDM	Lati

Table 5a. *Some trade names/trade marks, abbreviations and suppliers of polymers and polymer moulding compounds (sorted by alphabetical order of trade name) - contd*

<i>Trade name/trade mark</i>	<i>Abbreviation</i>	<i>Supplier</i>
Larton	PPS	Lati
Lastane	TPU	Lati
Lastane	TPU	Lati
Lastiflex	PVC/SR	Lati
Lastil	SAN	Lati
Lastilac	ABS	Lati
Lastilac	ABS/PC	Lati
Lastirol	PS	Lati
Lasulf	PSU	Lati
Latamid 12	PA 12	Lati
Latamid 6	PA 6	Lati
Latamid 66	PA 66	Lati
Latan	POM	Lati
Latene HD	PE-HD	Lati
Later	PBT	Lati
Latilon	PC	Lati
Latilub	TP-LUB	Lati
Latishield	TP-EMI shielding	Lati
Latistat	TP-antistatic	Lati
Legupren	UP	Bayer
Leguval	UP	Bayer
Lekutherm	EP	Bayer
Levaflex	TPO-XL	Bayer
Levapren	EVA	Bayer
Lexan	PC	General Electric Co.
Linpac Polystyrene	PS	Linpac
Lomod	TPE-E	General Electric Co.
Lotader	TP-CO	Orkem
Lotrene	PE-LD	Orkem
Lotrex	PE-LLD	Orkem
LP	T-liquid	Morton International
LP-R	T-compounds	Morton International
Lubmer	PO-LUB	Mitsui Sekka
Lubricomp	TP-LUB	LNP Engineering Plastics Inc.
Lucalen	PE-CO	BASF
Lucalor	PVC-C	Elf Atochem S.A.
Lucobit	PE-CO/bitumen	BASF
Lucolene	PVC-U	Elf Atochem S.A.
Lucorex	PVC-U	Elf Atochem S.A.
Lucryl	PMMA	BASF
Lupolen	PE-LD	BASF
Lupolen HD	PE-HD	BASF
Luran	SAN	BASF
Luran S	ASA	BASF
Luranyl	PPO-M	BASF
Lustran	ABS	Monsanto
Lustran Ultra ABS	ABS-HG	Monsanto
Magnacomp	TP-MAG	LNP Engineering Plastics Inc.
Magnum	ABS	Dow
Makroblend	PC/PBT	Bayer
Makrolon	PC	Bayer
Makrolon	PC-GF	Bayer
Maranyl	PA 6	ICI
Maranyl	PA 66	ICI
Marlex	PE-HD	Phillips Petroleum Chemicals
Marub	NR-TSR	MARDEC
Marvylex	TPE-PVC	LVM
Marvylflo	PVC	LVM
Megapoly	NR-MG	Asiatic Developments
Megolon	TP-COM	Lindsay & Williams
Melaicar	MF	S A Aicar
Melamine moulding comp	MF	Perstop Ferguson
Melinar	PET	ICI
Melmex	MF	BIP Chemicals

Table 5a - contd

<i>Trade name/trade mark</i>	<i>Abbreviation</i>	<i>Supplier</i>
Meloplas	MF	Ciba Geigy
Meloplas	MPF	Ciba Geigy
Melsprea	MF	SPREA
Menzolit	PMC	Menzolit Werke
Merlin	PC	Mobay
Methocel	MC	Dow
Metton	LMR	Shell/Hercules
Miapol	UP resin	Mia Chemical
Milastomer	TPE-O	Mitsui Sekka
Mindel	PSU-COM	Amoco Performance Products
Minlon	PA 66-COM	Du Pont
Mipelon	PO-UHMW	Mitsui Sekka
Mitsui EPT	EPDM	Mitsui Sekka
Mitsui FR-PP	PP-GF	Mitsui Sekka
Mitsui Hi-wax	PE-VLD	Mitsui Sekka
Modar	TST-acrylic resin	ICI
Moldsite	PF	SPREA
Moplen	PP	Himont
Nakan	PVC-COM	Elf Atochem S.A.
NAS	PS/PMMA	Novacor
NAS	PS/PMMA/BD	Novacor
Naycar-A	PA 66	Polymer Trading
Naycar-B	PA 6	Polymer Trading
Nealid	PP	Neste
Neocis	BR	Enichem
Neocis	BR	Enichem
Neoflon	FEP	Daikin
Neonite	EMC	Ciba Geigy
Neoprene	CR	Du Pont
Neo-zex	PE-MD	Mitsui Sekka
Nepol	PP-LF	Neste
Neste HDPE	PE-HD	Neste
Neste LD	PE-LD	Neste
Neste LLD	PE-LLD	Neste
Neste PS	PS-HI	Neste
Nestorite	PF	Perstorp
Nike	CN	Punda Inc.
Nivionplast A	PA 6-COM	Enichem
Nivionplast B	PA 6-COM	Enichem
Norchem	PE-HD	Enron/Delong Prochem
Norchem	PE-LLD	Enron/Delong Prochem
Norchem	PP	Enron/Delong Prochem
Nordel	EPR	Du Pont
Norlin	PE-LLD	Northern Petrochemicals
Norpol	UP	Jotun Polymer
Norpol	UP-resin	Jotun Polymer
Norsoflex	PE-VLD	Orkem
Norsomix	DMC	Orkem
Norsorex	SR	Elf Atochem S.A.
Nortuff	PP	Norchem Inc
Norvinyl	PVC	Norsk Hydro
Noryl	PPO-M	General Electric Co.
Noryl GTX	PPO-M/PA	General Electric Co.
Novablend	PVC	Novatec
Novalloy	ABS-AL	Hoechst Daicel Polymers
Novamid	PA	Mitsubishi
Novapol HD	PE-HD	Novacor
Novapol LD	PE-LD	Novacor
Novex	PE-LD	BP Chemicals
Novodur	ABS	Bayer
Novolen	PP	BASF
Novon	TP-starch based	Warner Lambert
Nucrel	EMA	Du Pont
Nuloy	PA 6	Terlon Polimeros
Nydur	PA 6	Mobay

Table 5a. *Some trade names/trade marks, abbreviations and suppliers of polymers and polymer moulding compounds (sorted by alphabetical order of trade name) - contd*

<i>Trade name/trade mark</i>	<i>Abbreviation</i>	<i>Supplier</i>
Nylafil	PA-COM	Wilson Fibrefil
Nypel	PA 6-RC	Allied Signal Inc.
Ongro	CPE	Borsodchem
Oppanol	PIB	BASF
Orgalloy R	PA 66/PP	Elf Atochem S.A.
Orgalloy R	PA 6/PP	Elf Atochem S.A.
Orgamide	PA 6	Elf Atochem S.A.
Orgater	PBT	Elf Atochem S.A.
Orkot	PF composite	Orkot Engineering Plastics
Oroglas DR	PMMA-HI	Rohm and Haas
Oroglas V	PMMA	Rohm and Haas
Palapreg	DMC	BASF
Palapreg	SMC	BASF
Palatal	UP	BASF
Paraloid	Impact modifiers	Rohm and Haas
Paraloid EXL	Impact modifiers	Rohm and Haas
Parapol	PIB	Exxon Chemical
Parr	DAP	US Prolam Inc.
Paxon	PE-HD	Allied Signal Inc.
Pax-Purge	Purge compounds	Canada Color & Chemicals
Pebax	TPE-A	Elf Atochem S.A.
Pekema	PVC	Punda Inc.
Pekevic	PVC	Neste
Pemex	PE-LD	Petroleos Mexicanos
Perbunan	NBR	Bayer
Perbunan	NNBR	Bayer
Petlon	PET	Bayer
Petra	PET	Allied Signal Inc.
Petrothene	PE-HD	USI/Quantum
Petrothene	PE-LLD	USI/Quantum
Pevikon	PVC	Norsk Hydro
Pibiter	PBT	Enichem
Pibiter	PBT-HI	Enichem
Plaskon	EP	Plaskon Molding Div.
Plaskon DAP	DAP	Plaskon Molding Div.
Plastech	PP-COM	Cabot Plastics
Plasticlean	Purge compound	W S Wood Assoc.
Plenco	MPF	Plastics Engineering Co.
Plenco	PF	Plastics Engineering Co.
Plenco	UP	Plastics Engineering Co.
Plexar	PE/EVA-CO	DSM (Dutch State Mines)
Pocan	PBT	Bayer
Pocan	PBT-GF	Bayer
Pocan 7918	PBT/SR/PC	Bayer
Polloplas	UF	Dynamit Nobel
Poly DAP	DAP	US Prolam Inc.
Polychem	DAP	Budd Co.
Polyfort	PP-COM	Schulman Inc
Polyidene	PVDC	Scott Bader
Polyloy	PA 6	EMS-Chemie
Polyloy	PA 6	Illing
Polyloy	PA 66	Illing
Polymer E	PE-LD	Asia Polymer Corp.
Polyplastol	Proc. aid-rubbers	Enichem
Polystal	GMT	Bayer
Polystyrol	PS	BASF
Polystyrol	PS	Norsk Hydro
Polystyrol	PS-HI	BASF
Polystyrol	PS-HI	Norsk Hydro
Polytron	PVC-conductive	BF Goodrich
Prevex	PPO-M	General Electric Co.
Primacor	EAA	Dow
Primef	PPS	Solvay
Procom	PP-COM	ICI

Table 5a - contd

<i>Trade name/trade mark</i>	<i>Abbreviation</i>	<i>Supplier</i>
Profax	PP	Himont
Progilit	PF	Rhône-Poulenc Chimie
Propathene	PP-CO	ICI
Propathene	PP-H	ICI
Propathene OTE	TPE-RMPP	ICI
PTS Thermoflex	TPE-S (SEBS)	Plastics Technology Services
Pulse	PC/ABS	Dow
Quantum	PE-LD-HMW	Quantum Chemical Corp
Quatrex	EP	Dow
Quimcel	CN	Punda Inc.
Radel	PSU	Amoco Performance Products
Radiflam	PA-COM	Radicinovacips
Radilon	PA-COM	Radicinovacips
Radlite	GMT	Azdel Europe
Ralupol	UP	Raschig
Resarit	PMMA	Resart
Resartherm	PMC	Resart
Resilon	PVC	Canadian General-Tower
Resinol	PF	Raschig
Resinol V	CF (cresol-based)	Raschig
Rexene	PP	El Paso
Rhoderster CL	LCP	Rhône-Poulenc Chimie
Riblene	PE-LD	Enichem
Rigidex	PE-HD	BP Chemicals
Rigipore	PS-X	BP Chemicals
Rilsan	PA 11	Elf Atochem S.A.
Rilsan A	PA 12	Elf Atochem S.A.
Riteflex	TPE-E	Hoechst/Hoechst Celanese
Ronfalin	ABS	DSM (Dutch State Mines)
Ronfaloy	ABS-AL	DSM (Dutch State Mines)
Ronfaloy-E	SAN/CPE/EPDM-AL	DSM (Dutch State Mines)
Rosite	BMC	Rostone
Rosite	SMC	Rostone
Rossi Lightflex	SBS	Rossi
Rovel	TP-styrene based	Dow
Royalene	EPDM	Uniroyal
Rutaform	MF	Sterling Moulding Materials
Rutaform Polyester	GPMC	Sterling Moulding Materials
Rutamid 6	PA 6	Bakelite
Rutamid 66	PA 66	Bakelite
Rynite	PET	Du Pont
Rynite PBTP	PBT	Du Pont
Ryton	PPS	Phillips Petroleum Chemicals
Santoprene	TPO-XL	Advanced Elastomer Systems
Saran	PVDC	Dow
Scarab	UF	BIP Chemicals
Scarnol	EVOH	Nippon Gobsei
Sclair	PE-LLD	Du Pont
Sclairlink	PE-crosslinkable	Du Pont
Selar OH	EVOH	Du Pont
Selar PA	PA-amorphous	Du Pont
Series 20	PE-LD	Du Pont
Series 20	PE-MD	Du Pont
Sinkral	ABS	Enichem
Sinvet	PC	Enichem
Sirester	UP resins	SIR (Società Italiana Resine)
Sirfen	PF resins	SIR (Società Italiana Resine)
Sirfen X	PF	SIR (Società Italiana Resine)
Siritle	UF	SIR (Società Italiana Resine)
SMA Resins	SMA	Sartomer
Smokeguard	TP-AL	Evode Plastics Ltd.
Smokeguard HF	TP-AL	Evode Plastics Ltd.
Smokeguard II	TP-AL	Evode Plastics Ltd.
Snialoy	TP-AL	Snia
Sniamid	PA 6	Snia

Table 5a. *Some trade names/trade marks, abbreviations and suppliers of polymers and polymer moulding compounds (sorted by alphabetical order of trade name) - contd*

<i>Trade name/trade mark</i>	<i>Abbreviation</i>	<i>Supplier</i>
Sniamid	PA 66	Snia
Sniasan	ABS	Snia
Sniasan	SAN	Snia
Sniatal	POM	Snia
Sniater	PBT	Snia
Sniater	PET	Snia
Soarnol	EVOH	Elf Atochem S.A.
Solef	PVDF	Solvay
Solvic	PVC	Solvay
Spheretex	TP + microspheres	Buch and Kolce
Spherilene	PP-LLD	Montecatini
ST	T-millable	Morton International
Stamylan HD	PE-HD	DSM (Dutch State Mines)
Stamylan LD	PE-LD	DSM (Dutch State Mines)
Stamylan P	PP	DSM (Dutch State Mines)
Stamylex	PE-LLD	DSM (Dutch State Mines)
Stamyroid	PP-amorphous	DSM (Dutch State Mines)
Stanyl	PA 46	DSM (Dutch State Mines)
Stapron C	ABS/PC-AL	DSM (Dutch State Mines)
Stapron M	ABS/PA-AL	DSM (Dutch State Mines)
Stapron S	SMA/SR-AL	DSM (Dutch State Mines)
Staramide	PA-GF	Ferro
Starflam	ETP-FR	Ferro
Starglas	ETP-GF	Ferro
Starpylen	PP-GF	Ferro
Star-C	TP-CF	Ferro
Star-L	TP-LUB	Ferro
Star-X	PA-HI	Ferro
Stat Kon	TP-CON	LNP Engineering Plastics Inc.
Statoil polyethylene HDPE	PE-HD	Statoil
Statoil polyethylene LDPE	PE-LD	Statoil
Statoil polypropylene PP	PP	Statoil
Stat-Rite	TP-antistatic	BF Goodrich
Sternite	PF	Sterling Moulding Materials
Sternite	PS	Sterling Moulding Materials
Sternite	PS-HI	Sterling Moulding Materials
Strippex	PE-XL	Neste
Styrocell	PS-X	Shell
Styrolux	BDS	BASF
Styron	PS	Dow
Styron	PS-HI	Dow
Styropor	PS-X	BASF
Sunlet	PP-COM	Mitsui Sekka
Sunpreme	TPE	Elf Atochem S.A.
Supec	PPS	General Electric Co.
Super Hexene	PE-LLD	Mobil
Superclean	PE-XL	Neste
Supersmooth	PO-XL	Neste
Supopoly	NR-SP	Asiatic Developments
Supraplast	BMC	Süd West Chemie
Supraplast	DAP	Süd West Chemie
Supraplast	DMC	Süd West Chemie
Supraplast	EP	Süd West Chemie
Supraplast	MF	Süd West Chemie
Supraplast	MPF	Süd West Chemie
Supraplast	PF	Süd West Chemie
Supraplast	SMC	Süd West Chemie
Supraplast	UF	Süd West Chemie
Suramin	MF resin	SIR (Società Italiana Resine)
Suramin	UF resin	SIR (Società Italiana Resine)
Surlyn	ION	Du Pont
Synolite	UP resins	DSM Resins
Tactix	EP	Dow
Taffen	GMT/PP	Exxon Chemical

Table 5a - contd

<i>Trade name/trade mark</i>	<i>Abbreviation</i>	<i>Supplier</i>
Tafmer	PO-CO	Mitsui Sekka
Tancin	PP	Washington Penn Plastics
Teamex	PE-VLD	DSM (Dutch State Mines)
Techmore	EP-HT	Mitsui Sekka
Technopolymer	GMT	General Electric Co.
Technoprene	PP-GF	Enichem
Technorub	NR-TSR	Hecht Heyworth & Alcan
Technyl	PA 66	Rhône-Poulenc Chimie
Techster E	PET	Rhône-Poulenc Chimie
Techster T	PBT	Rhône-Poulenc Chimie
Tecnoprene	PP-GF	Enichem
Tecolit	PF	Toshiba Chemical Products
Tedur	PPS	Bayer
Teflex	FEP	Nitechim
Teflon	FEP-COM	Du Pont
Teflon AF	FEP-amorphous	Du Pont
Teflon FEP	FEP	Du Pont
Teflon PFA	PFA	Du Pont
Teflon TFE	PTFE	Du Pont
Tefzel	ETFE	Du Pont
Telcar DVNR	NR/PP	Texnor Apex
TempRite	PVC-C	BF Goodrich
Tenite	CA	Eastman Chemicals
Tenite	CAB	Eastman Chemicals
Tenite	CAP	Eastman Chemicals
Tenite	CP	Eastman Chemicals
Tenite PET	PET	Eastman Chemicals
Tenite Polyethylene	PE-LD	Eastman Chemicals
Tenite Polypropylene	PP	Eastman Chemicals
Terblend S	ASA/PC	BASF
Terluran	ABS	BASF
Therban	HNBR	Bayer
Therban	NBR	Bayer
Thermaflo	PVC-P	Evode Plastics Ltd.
Thermocomp	TP-COM	LNP Engineering Plastics Inc.
Torlon	PAI	Amoco Performance Products
Toyobo MXDA	PAA 6	Toyobo
TPR	TPE	Advanced Elastomer Systems
TPX	PMP	Mitsubishi
TPX	TPX	Mitsui Sekka
Transpalene	PP-trans	Neste
Trefsin	TPE	Advanced Elastomer Systems
Triax	TP alloys	Monsanto
Triax 1000	PA/ABS alloys	Monsanto
Triax 2000	PC/ABS alloys	Monsanto
Trithene	PE-LD	Petroquimica Triunfo
Trithera	EVA	Petroquimica Triunfo
Trogamid T	PA-amorphous	Hüls
Trolon	PF-resin	Hüls
Trosiplast	PVC-COM	Hüls
Tyrl	SAN	Dow
Tyrlin	CPE	Dow
Udel	PSU	Amoco Performance Products
Ugikral	ABS	General Electric Co.
Ultem	PEI	General Electric Co.
Ultrablend	PBT/PC	BASF
Ultrablend S	PBT/ASA	BASF
Ultradur	PBT	BASF
Ultraform	POM-CO	BASF
Ultramid	PA 6	BASF
Ultramid A	PA 66	BASF
Ultramid C	PA-CO	BASF
Ultramid RC	PA-recycled	BASF
Ultramid S	PA 610	BASF
Ultranyl	PPO-M/PA	BASF

Table 5a. *Some trade names/trade marks, abbreviations and suppliers of polymers and polymer moulding compounds (sorted by alphabetical order of trade name) - contd*

<i>Trade name/trade mark</i>	<i>Abbreviation</i>	<i>Supplier</i>
Ultrapek	PEK	BASF
Ultraplas	MF	Dynamit Nobel
Ultrason E	PSU	BASF
Ultrason S	PSU	BASF
Ultrastyr	AES	Enichem
Ultzex	PE-LLD	Mitsui Sekka
Unidene	SBR-S	Enichem
Unipol	PE-LLD	Mobil
Urochem	UF	Chemiplastica Spa
Uroplast	UF	Sterling Moulding Materials
Valox	PBT	General Electric Co.
Valtec	PP	Himont
Vamac	SR-EMA	Du Pont
Vandar	PBT-HI	Hoechst/Hoechst Celanese
Vector	TPE-S	Dexco Corp
Vectra	LCP	Hoechst/Hoechst Celanese
Verton	LF-TP	ICI
Vespel	PI	Du Pont
Vestamid	PA 12	Hüls
Vestamid	PA 612	Hüls
Vestamid	PEBA	Hüls
Vestenamer	TPA	Hüls
Vestodur	PBT	Hüls
Vestolen	TPE-EPDM	Hüls
Vestolen A	PE-HD	Hüls
Vestolen P	PP	Hüls
Vestolit	PVC	Hüls
Vestolit	PVC-COM	Hüls
Vestopal	UP-resin	Hüls
Vestoplast	PO-amorphous	Hüls
Vestopren	TPE-O	Hüls
Vestoran	PPO-M	Hüls
Vestypor	PS-X	Hüls
Vestyron	PS	Hüls
Vestyron	PS	Svenska
Vibrin	UP resins	Fiberglass
Victrex PEEK	PEEK	ICI
Victrex PES	PSU	ICI
Vinex	PVAL-CO	Air Products and Chemicals Inc.
Vinidur	PVC-CO	BASF
Vinoflex	PVC	BASF
Vinuran	PVC modifiers	BASF
Vipla	PVC	European Vinyl Corp.
Vista	PVC	Vista Chemicals
Vistaflex	TPE-O	Advanced Elastomer Systems
Vistalon	EPDM	Exxon Chemical
Vistalon	EPM	Exxon Chemical
Vistanex	PIB	Exxon Chemical
Vitacom DVNR	NR/PP	Vitacom
Vitalon	PA 46 - see Stanyl	
Vitax	ASA	Hitachi Chemicals
Viton	FKM	Du Pont
Voltalef	PCTFE	Elf Atochem S.A.
Vydox	PTFE	Du Pont
Vydyne	PA	Monsanto
Vydyne R	PA 66 COM	Monsanto
Vynite	PVC/NBR	Alpha Chemical & Plastics
Vyram	TPE	Advanced Elastomer Systems
Vythene	PVC/PU	Alpha Chemical & Plastics
Wacker Polyathylen	PE-HD	Wacker-Chemie
Welite	PBT	Wellman Inc.
Wellamid	PA 6	Wellman Inc.
Wellamid	PA 66	Wellman Inc.
Welpet	PET	Wellman Inc.

Table 5a - contd

<i>Trade name/trade mark</i>	<i>Abbreviation</i>	<i>Supplier</i>
Xantar	PC	DSM (Dutch State Mines)
Xenoy	PC/PBT	General Electric Co.
Xydar	LCP	Amoco Performance Products
Zytel	PA 66	Du Pont
Zytel ST	PA 66 (HI)	Du Pont

Key

A	= amorphous.
AL	= alloy.
AR	= aromatic.
COM	= compound.
ETP	= engineering thermoplastics material.
GF	= glass fibre.
GMT	= glass mat reinforced thermoplastics material.
HI	= high impact.
HG	= high gloss.
HT	= high temperature.
ION	= ionomer.
LMW	= low molecular weight.
HMW	= high molecular weight.
DCF	= discontinuous fibre composite.
Encap	= encapsulating.
FF-TP	= fibre filled thermoplastics moulding compounds
LF-TP	= long fibre thermoplastics moulding compounds.
LMR	= liquid moulding resin.
Na	= sodium (neutralised).
NR-SP	= superior processing natural rubber.
NR-E	= epoxidized natural rubber.
NR-MG	= NR methacrylate graft rubber.
RC	= recycled.
SF-TP	= short fibre thermoplastics moulding compounds.
SF-MB	= structural foam masterbatch.
SS	= stainless steel (filler).
TP	= thermoplastics material.
TP-AL	= thermoplastic alloy.
TP-BIO	= thermoplastic compounds which are designed to be biodegradable.
TP-COM	= thermoplastic compounds.
TP-CON	= thermoplastic compounds which are designed to be conductive.
TP-EMI	= thermoplastics compounds which are EMI shielding.
TP-LUB	= thermoplastics compounds which contain a lubricant, for example, PTFE, silicone oil, graphite etc.
TP-MAG	= thermoplastics compounds which contain metal fillers and which are capable of being turned into magnets.
trans	= transparent material.
TST	= thermosetting material.
X	= expanded or expandable.
XL	= crosslinked or crosslinkable.
Zn	= zinc (neutralised)

Company alternative names or abbreviations

AES	- see Advanced Elastomer Systems.
Amoco Chemical	- see Amoco Performance Products.
Atochem	- see Elf Atochem S.A.
Dutch State Mines	- see DSM.
EMS-Grilon	- see EMS-Chemie.
GE Plastics	- see General Electric Co.
KGSB	= Kumpulan Guthrie Seridirian Berhad
Plastiques Techniques	- see Rhône-Poulenc Chimie.
RP	- see Rhône-Poulenc Chimie.
SWC	- see Süd West Chemie.

Table 5b. Trade names/trade marks, abbreviations and suppliers of polymers and polymer compounds (sorted by alphabetical order of abbreviation)

Key for Table 5b on p. 531

<i>Abbreviation</i>	<i>Supplier</i>	<i>Trade name/trade mark</i>
ABS	BASF	Terluran
ABS	Bayer	Novodur
ABS	Dow	Magnum
ABS	DSM (Dutch State Mines)	Ronfalin
ABS	Elf Atochem S.A.	Arrhadur
ABS	Enichem	Sinkral
ABS	General Electric Co.	Cycolac
ABS	General Electric Co.	Ugikral
ABS	Industrial Resistol	Epolan
ABS	Lati	Lastilac
ABS	Monsanto	Lustran
ABS	Rhône-Poulenc Chimie	Alcoryl
ABS	Snia	Sniasan
ABS modifier	Bayer	Baymod A
ABS-AL	DSM (Dutch State Mines)	Ronfaloy
ABS-AL	General Electric Co.	Cycoloy
ABS-AL	Hoechst Daicel Polymers	Novalloy
ABS-FR	Hoechst Daicel Polymers	Cevian
ABS-HG	Monsanto	Lustran Ultra ABS
ABS/PA-AL	DSM (Dutch State Mines)	Stapron M
ABS/PC	Bayer	Bayblend
ABS/PC	Enichem	Koblend
ABS/PC	Lati	Lastilac
ABS/PC-AL	DSM (Dutch State Mines)	Stapron C
ABS/PSU	USS Chemicals	Arylon T
ACM	Enichem	Cyanacryl
ACM	Enichem	Cyanacryl
ACM	Enichem	Europrene
Acrylic acid	BF Goodrich	Carbopol
Acrylic imide	Rohm and Haas	Kamax
Acrylic polymer	BF Goodrich	Carboaset
AES	Enichem	Ultrastyr
ASA	BASF	Luran S
ASA	Hitachi Chemicals	Vitax
ASA	Mitsubishi	Dialac
ASA/AES	Advanced Elastomer Systems	Centrex
ASA/PC	BASF	Terblend S
BDS	BASF	Styrolux
BDS	Phillips Petroleum Chemicals	K-resin
BMC	Rostone	Rosite
BMC	Süd West Chemie	Supraplast
BR	Bayer	Buna CB
BR	Enichem	Europrene
BR	Enichem	Intene
BR	Enichem	Neocis
BR	Enichem	Neocis
CA	Albis	Cellidor
CA	Bergmann	Bergacell
CA	Courtaulds Speciality Plastics	Dexel
CA	Courtaulds Speciality Plastics	Dexel S
CA	Eastman Chemical	Tenite
CA-BIO	Tubize Plastics	Bioceta
CAB	Eastman Chemical	Tenite
CAP	Albis	Cellidor
CAP	Eastman Chemical	Tenite
CF (cresol-based)	Raschig	Resinol V
CN	Punda Inc.	Nike
CN	Punda Inc.	Quimcel
CP	Eastman Chemical	Tenite
CPE	Bayer	Bayer CM
CPE	Borsodchem	Ongro
CPE	Dow	Tyrin
CR	Bayer	Baypren

Table 5b - contd

<i>Abbreviation</i>	<i>Supplier</i>	<i>Trade name/trade mark</i>
CR	Distugil	Butachlor
CR	Du Pont	Neoprene
CSM	Du Pont	Hypalon
DAIP	Synres Amoco	DAIP 6000
DAP	Budd Co.	Polychem
DAP	Occidental	Durez
DAP	Plaskon Molding Div.	Plaskon DAP
DAP	Süd West Chemie	Supraplast
DAP	Synres Amoco	DAP 5000
DAP	US Prolam Inc.	Parr
DAP	US Prolam Inc.	Poly DAP
DCF	Technical Fibre Products	Disco
DMC	BASF	Palapreg
DMC	BIP Chemicals	Beetle DMC
DMC	ERF	ERF DMC
DMC	Orkem	Norsomix
DMC	Sd West Chemie	Supraplast
EAA	Dow	Primacor
EAA	Exxon Chemical	Escor EAA
EC	Dow	Ethocel
ECTFE	Ausimont	Halar
EMA	Du Pont	Nucrel
EMA	Exxon Chemical	Escorene Optema
EMC	Ciba Geigy	Araldite
EMC	Ciba Geigy	Neonite
EP	Bayer	Lekutherm
EP	Chemroy Canada	DER
EP	Ciba Geigy	Araldite
EP	Dow	Quatrex
EP	Dow	Tactix
EP	Emmerson and Cuming	Eccomold
EP	EMS-Chemie	Grilonit
EP	Plaskon Molding Div.	Plaskon
EP	Scott Bader	Crystic Kollernox
EP	Süd West Chemie	Supraplast
EP	Shell	Epon
EP	SPREA	Eponac
EP resin	Mitsui Sekka	Epomik
EP resins	Shell	Epikote
EP resins	SIR (Società Italiana Resine)	Epoester
EP resins	SIR (Società Italiana Resine)	Eposir
EPDM	Exxon Chemical	Vistalon
EPDM	Hüls	Buna AP
EPDM	Mitsui Sekka	Mitsui EPT
EPDM	Uniroyal	Royalene
EPM	Exxon Chemical	Vistalon
EPR	Du Pont	Nordel
EPR	Enichem	Dutral
EP-COM	Mitsui Sekka	Epox
EP-COM	Shell	Eponite
EP-HT	Mitsui Sekka	Techmore
ETFE	Du Pont	Tefzel
ETFE	Hoechst/Hoechst Celanese	Hostaflon FEP
ETP	Du Pont	Bexloy
ETP-FR	Ferro	Starflam
ETP-GF	Ferro	Starglas
EVA	Bayer	Levapren
EVA	Du Pont	Elvax
EVA	Elf Atochem S.A.	Evatane
EVA	Enichem	Greenflex
EVA	Exxon Chemical	Escorene Ultra
EVA	Petroquímica Triunfo	Trithera
EVA modifier	Bayer	Baymod L
EVOH	Du Pont	Elvanol
EVOH	Du Pont	Selar OH

Table 5b. Trade names/trade marks, abbreviations and suppliers of polymers and polymer compounds (sorted by alphabetical order of abbreviation) - contd

<i>Abbreviation</i>	<i>Supplier</i>	<i>Trade name/trade mark</i>
EVOH	Elf Atochem S.A.	EVOH SF
EVOH	Elf Atochem S.A.	Soarnol
EVOH	Kuraray/EVAL Co	Eval
EVOH	Nippon Gobsei	Scarnol
EVOH	Solvay	Clarene
FEP	Daikin	Neoflon
FEP	Du Pont	Teflon FEP
FEP	Hoechst/Hoechst Celanese	Hostaflon FEP
FEP	Nitechim	Teflex
FEP-amorphous	Du Pont	Teflon AF
FEP-COM	Du Pont	Teflon
FF-TP	Baycomp	Baycomp
FKM	Du Pont	Viton
GMT	Azdel Europe	Radlite
GMT	Bayer	Polystal
GMT	General Electric Co.	Technopolymer
GMT laminates	BASF/Elastogran	Elastopreg
GMT/PBT	Azdel Inc.	Azmet
GMT/PC/PBT	Azdel Inc.	Azloy
GMT/PP	Azdel Inc.	Azdel
GMT/PP	Exxon Chemical	Taffen
GPMC	Freeman Chemicals	Freeflow
GPMC	Scott Bader	Crystic Impel
GPMC	Scott Bader	Impel
GPMC	Sterling Moulding Materials	Bakelite Polyester Alkyd
GPMC	Sterling Moulding Materials	Rutaform Polyester
HNBR	Bayer	Therban
IIR	Exxon Chemical	Exxon Butyl
IIR-X	Exxon Chemical	Exxon Bromobutyl
IIR-X	Exxon Chemical	Exxon Chlorobutyl
Impact modifiers	Rohm and Haas	Paraloid
Impact modifiers	Rohm and Haas	Paraloid EXL
ION	Allied Signal Inc.	Aclyn
ION	Du Pont	Surlyn
ION-Na	Exxon Chemical	Iotek
ION-Zn	Exxon Chemical	Iotek
LCP	Amoco Performance Products	Xydar
LCP	Hoechst/Hoechst Celanese	Vectra
LCP	Rhône-Poulenc Chimie	Rhodester CL
LF-TP	ICI	Verton
LMR	Shell/Hercules	Metton
MBS	Kaneka/E W Seward Ltd.	Kane Ace B
MC	Dow	Methocel
MF	BIP Chemicals	Melmex
MF	Ciba Geigy	Meloplas
MF	Cyanamid	Cymel
MF	Dynamit Nobel	Ultraplas
MF	Perstop Ferguson	Melamine moulding comp
MF	Perstorp	Isomin
MF	S A Aicar	Melaicar
MF	Süd West Chemie	Supraplast
MF	SPREA	Melsprea
MF	Sterling Moulding Materials	Rutaform
MF resins	SIR (Società Italiana Resine)	Suramin
MF resins	BIP Chemicals	Beetle
MMA-resins	Degussa AG	Degadur
MMA-resins	Degussa AG	Degalan S
MMA-resins	Degussa AG	Degament
modifiers-plastics	Exxon Chemical	Exxelor
MPF	Ciba Geigy	Meloplas
MPF	Plastics Engineering Co.	Plenco
MPF	Süd West Chemie	Supraplast
NBR	Bayer	Perbunan
NBR	Bayer	Therban

Table 5b - contd

<i>Abbreviation</i>	<i>Supplier</i>	<i>Trade name/trade mark</i>
NBR	Enichem	Europrene
NBR/PVC	Enichem	Europrene
NNBR	Bayer	Perbunan
NR-E	KGSB	Epoxyprene
NR-MG	Asiatic Developments	Megapoly
NR-powdered	Golden Hope Plantations	Hyflo
NR-skim rubber	Dunlop Plantations	Dunlocrumb S
NR-skim rubber	KGSB	Dynat S
NR-SP	Asiatic Developments	Supopoly
NR-TSR	Dunlop Plantations	Dunlocrumb
NR-TSR	Golden Hope Plantations	Hyrub
NR-TSR	Hecht Heyworth & Alcan	Technorub
NR-TSR	KGSB	Dynat
NR-TSR	MARDEC	Marub
NR/PP	Texnor Apex	Telcar DVNR
NR/PP	Vitacom	Vitacom DVNR
PA	Du Pont	Elvamide
PA	Misubishi	Novamid
PA	Mitsui Sekka	Arlen
PA	Monsanto	Vydyne
PA 11	Elf Atochem S.A.	Rilsan
PA 11	Thermoclad	Duralon
PA 12	Elf Atochem S.A.	Rilsan A
PA 12	EMS-Chemie	Grilamid
PA 12	Hüls	Vestamid
PA 12	Lati	Latamid 12
PA 46	DSM (Dutch State Mines)	Stanyl
PA 46 - see Stanyl		Vitalon
PA 6	Allied Signal Inc.	Capron
PA 6	Ashley Polymers Inc.	Ashlene
PA 6	Bakelite	Rutamid 6
PA 6	BASF	Ultramid
PA 6	Bayer	Durethan
PA 6	Bergmann	Bergamid B
PA 6	BIP Chemicals	Beetle nylon 6
PA 6	BIP Chemicals	Jonylon
PA 6	DSM (Dutch State Mines)	Akulon
PA 6	Elf Atochem S.A.	Orgamide
PA 6	EMS-Chemie	Grilon
PA 6	EMS-Chemie	Polyloy
PA 6	ICI	Maranyl
PA 6	Illing	Polyloy
PA 6	Lati	Kelon B
PA 6	Lati	Latamid 6
PA 6	Mobay	Nydur
PA 6	Polymer Trading	Naycar-B
PA 6	Resinmec	Arcomid
PA 6	Snia	Sniamid
PA 6	Terlon Polimeros	Nuloy
PA 6	Wellman Inc.	Wellamid
PA 6-COM	Enichem	Nivionplast A
PA 6-COM	Enichem	Nivionplast B
PA 6-GF	Bayer	Durethan
PA 6/PA 12	EMS-Chemie	Grilon C
PA 6/PP	Elf Atochem S.A.	Orgalloy R
PA 6-RC	Allied Signal Inc.	Nypel
PA 66	Ashley Polymers Inc.	Ashlene
PA 66	Bakelite	Rutamid 66
PA 66	BASF	Ultramid A
PA 66	Bayer	Durethan
PA 66	Bergmann	Bergamid A
PA 66	BIP Chemicals	Beetle nylon 66
PA 66	BIP Chemicals	Jonylon
PA 66	DSM (Dutch State Mines)	Akulon
PA 66	Du Pont	Zytel

Table 5b. Trade names/trade marks, abbreviations and suppliers of polymers and polymer compounds (sorted by alphabetical order of abbreviation) - contd

<i>Abbreviation</i>	<i>Supplier</i>	<i>Trade name/trade mark</i>
PA 66	EMS-Chemie	Grilon T
PA 66	Hoechst/Hoechst Celanese	Celanese Nylon
PA 66	ICI	Maranyl
PA 66	Illing	Polyloy
PA 66	Lati	Kelon A
PA 66	Lati	Latamid 66
PA 66	Mobay	Durethan
PA 66	Polymer Trading	Naycar-A
PA 66	Resinmec	Arcomid
PA 66	Rhône-Poulenc Chimie	Technyl
PA 66	Snia	Sniamid
PA 66	Wellman Inc.	Wellamid
PA 66 COM	Monsanto	Vydyne R
PA 66-COM	Du Pont	Minlon
PA 66-GF	Bayer	Durethan
PA 66-HI	Du Pont	Zytel ST
PA 66/PP	Elf Atochem S.A.	Orgalloy R
PA 610	BASF	Ultramid S
PA 612	Ashley Polymers Inc.	Ashlene
PA 612	Hüls	Vestamid
PAA 6	Solvay	Ixef
PAA 6	Toyobo	Toyobo MXDA
PAI	Amoco Performance Products	Torlon
PAN	Sohio	Barex
PAN	Standard Oil	Barex
PA-A	Ashley Polymers Inc.	Ashlene
PA-A	Du Pont	Selar PA
PA-A	Hüls	Trogamid T
PA-AR	EMS-Chemie	Grivory
PA-cast	Erta	Ertalan
PA-CO	BASF	Ultramid C
PA-CO	Elf Atochem S.A.	Cristamaid
PA-COM	Mitsui Sekka	Elmit
PA-COM	Radicinovacips	Radiflam
PA-COM	Radicinovacips	Radilon
PA-COM	Wilson Fibrefil	Nylafil
PA-GF	Ferro	Staramide
PA-HI	Ferro	Star-X
PA-recycled	BASF	Ultramid RC
PA-TR	EMS-Chemie	Grilamid TR
PA/ABS alloys	Monsanto	Triax 1000
PA/PP	DSM (Dutch State Mines)	Akuloy
PA/PPE	Allied Signal Inc.	Dimension
PB	Mitsui Sekka	Beaulon
PBT	BASF	Ultradur
PBT	Bayer	Pocan
PBT	Bergmann	Bergadur
PBT	DSM (Dutch State Mines)	Arnite
PBT	Du Pont	Crastine
PBT	Du Pont	Rynite PBTP
PBT	Elf Atochem S.A.	Orgater
PBT	Enichem	Pibiter
PBT	General Electric Co.	Valox
PBT	Hoechst/Hoechst Celanese	Celanex
PBT	Hüls	Vestodur
PBT	Lati	Later
PBT	Rhône-Poulenc Chimie	Techster T
PBT	Snia	Sniater
PBT	Wellman Inc.	Welite
PBT-GF	Bayer	Pocan
PBT-GF	Hoechst/Hoechst Celanese	Celanex
PBT-HI	Enichem	Pibiter
PBT-HI	Hoechst/Hoechst Celanese	Vandar
PBT/ASA	BASF	Ultrablend S

Table 5b - contd

<i>Abbreviation</i>	<i>Supplier</i>	<i>Trade name/trade mark</i>
PBT/PC	BASF	Ultrablend
PBT/SR/PC	Bayer	Pocan 7918
PC	Bayer	Makrolon
PC	BIP Chemicals	Beetle
PC	Dow	Calibre
PC	DSM (Dutch State Mines)	Xantar
PC	Enichem	Sinvet
PC	General Electric Co.	Lexan
PC	Idemitsu Petro Chem.	Idemitsu Polycarbonate
PC	Lati	Latilon
PC	Mobay	Merlin
PC-GF	Bayer	Makrolon
PC-HT	Bayer	Apec
PC/ABS	Dow	Pulse
PC/ABS alloys	Monsanto	Triax 2000
PC/PBT	Bayer	Makroblend
PC/PBT	General Electric Co.	Xenoy
PCTFE	Elf Atochem S.A.	Voltalef
PE	Du Pont	Du Pont 20 series
PE	Ecoplastics/Eco Chemicals	Ecolyte II & IV
PE	Hoechst/Hoechst Celanese	Hostapren
PE-X	Du Pont	Sclairlink
PE-CO	BASF	Lucalen
PE-CO/bitumen	BASF	Lucobit
PE-HD	Allied Signal Inc.	Paxon
PE-HD	Amoco Performance Products	Amoco PE-HD
PE-HD	Bamberger	Bapolene
PE-HD	BASF	Lupolen HD
PE-HD	BP Chemicals	Rigidex
PE-HD	Chemie Linz	Daplen
PE-HD	DSM (Dutch State Mines)	Stamylan HD
PE-HD	Elf Atochem S.A.	Lacqtene HD
PE-HD	Enichem	Eraclene
PE-HD	Enron/Delong Prochem	Norchem
PE-HD	Hoechst/Hoechst Celanese	Hostalen
PE-HD	Hüls	Vestolen A
PE-HD	Lati	Latene HD
PE-HD	Mitsui Sekka	Hi-zex
PE-HD	Neste	Neste HDPE
PE-HD	Novacor	Novapol HD
PE-HD	Petrofina	Finathene
PE-HD	Phillips Petroleum Chemicals	Marlex
PE-HD	Soltex Polymer Corp	Fortiflex
PE-HD	Solvay	Eltex
PE-HD	Statoil	Statoil polyethylene HDPE
PE-HD	USI/Quantum	Petrothene
PE-HD	Wacker-Chemie	Wacker Polyathylen
PE-HD UHMW	Mitsui Sekka	Hi-zex Million
PE-HD (HMW)	Hercules	Hercules HPR
PE-LD	Asia Polymer Corp.	Polymer E
PE-LD	BASF	Lupolen
PE-LD	BP Chemicals	Novex
PE-LD	Chemie Linz	Daplen
PE-LD	Dow	Dowlex
PE-LD	DSM (Dutch State Mines)	Stamylan LD
PE-LD	Du Pont	Series 20
PE-LD	Eastman Chemicals	Tenite Polyethylene
PE-LD	Enichem	Riblene
PE-LD	Exxon Chemical	Escorene
PE-LD	Neste	Neste LD
PE-LD	Novacor	Novapol LD
PE-LD	Orkem	Lotrene
PE-LD	Petroleos Mexicanos	Pemex
PE-LD	Petroquimica Triunfo	Trithene
PE-LD	Statoil	Statoil Polyethylene LDPE

Table 5b. Trade names/trade marks, abbreviations and suppliers of polymers and polymer compounds (sorted by alphabetical order of abbreviation) - contd

<i>Abbreviation</i>	<i>Supplier</i>	<i>Trade name/trade mark</i>
PE-LD-HMW	Quantum Chemical Corp	Quantum
PE-LLD	BP Chemicals	Innovex
PE-LLD	Dow	Dowlex
PE-LLD	DSM (Dutch State Mines)	Stamylex
PE-LLD	Du Pont	Sclair
PE-LLD	Elf Atochem S.A.	Lacqtene HX
PE-LLD	Elf Atochem S.A.	Lacqtene LX
PE-LLD	Enichem	Clearflex
PE-LLD	Enichem	Flexene
PE-LLD	Enron/Delong Prochem	Norchem
PE-LLD	Exxon Chemical	Escorene
PE-LLD	Exxon Chemical	Escorene α
PE-LLD	Mitsui Sekka	Ultzex
PE-LLD	Mobil	Super Hexene
PE-LLD	Mobil	Unipol
PE-LLD	Neste	Neste LLD
PE-LLD	Northern Petrochemicals	Norlin
PE-LLD	Orkem	Lotrex
PE-LLD	Sabic	Ladene
PE-LLD	USI/Quantum	Petrothene
PE-LLD/EVA (<5%)	Exxon Chemical	Escorene
PE-MD	Du Pont	Series 20
PE-MD	Hoechst/Hoechst Celanese	Hostalen
PE-MD	Mitsui Sekka	Neo-zex
PE-MD	Petrofina	Finathene
PE-MD	Soltex Polymer Corp	Fortiflex
PE-UHMW	Hoechst/Hoechst Celanese	Hostalen GUR
PE-VLD	Dow	Attane
PE-VLD	DSM (Dutch State Mines)	Teamex
PE-VLD	Mitsui Sekka	Mitsui Hi-wax
PE-VLD	Orkem	Norsoflex
PE-X	Arco	Arcel
PE-XL	Neste	Strippex
PE-XL	Neste	Superclean
PE/EVA-CO	DSM (Dutch State Mines)	Plexar
PEBA	Hüls	Vestamid
PEEK	ICI	Victrex PEEK
PEI	General Electric Co.	Ultem
PEK	BASF	Ultrapek
PEK	Hoechst/Hoechst Celanese	Hostatec
PET	Allied Signal Inc.	Petra
PET	Bayer	Petlon
PET	BIP Chemicals	Beetle PBT
PET	BIP Chemicals	Beetle PET
PET	DSM (Dutch State Mines)	Arnite
PET	Du Pont	Rynite
PET	Eastman Chemicals	Kodapek PET
PET	Eastman Chemicals	Tenite PET
PET	Hoechst/Hoechst Celanese	Impet
PET	ICI	Melinar
PET	Rhône-Poulenc Chimie	Techster E
PET	Snia	Sniater
PET	Wellman Inc.	Welpet
PET alloy	Allied Signal Inc.	Impact
PET-CO	Eastman Chemicals	Kodar PETG
PF	Bakelite/Sterling	Bakelite
PF	Chemiplastica Spa	Fenochem
PF	Chromos Ro-Polimeri	Fenoform
PF	Occidental	Durez
PF	Perstorp	Nestorite
PF	Plastics Engineering Co.	Plenco
PF	Raschig	Resinol
PF	Reichold	Dynaset
PF	Rhône-Poulenc Chimie	Progilite

Table 5b - contd

<i>Abbreviation</i>	<i>Supplier</i>	<i>Trade name/trade mark</i>
PF	Süd West Chemie	Supraplast
PF	SIR (Società Italiana Resine)	Sirfen X
PF	SPREA	Moldsite
PF	Sterling Moulding Materials	Sternite
PF	Toshiba Chemical Products	Tecolit
PF composite	Orkot Engineering Plastics	Orkot
PF-GF	Raschig	Fibresinol
PF-resins	Hüls	Trolon
PF-resins	SIR (Società Italiana Resine)	Sirfen
PF-resins-X	Hüls	Dynapor
PFA	Du Pont	Teflon PFA
PFA	Hoechst/Hoechst Celanese	Hostaflon FEP
PHB-CO	ICI	Biopol
PHB-H	ICI	Biopol
PI	Du Pont	VespeI
PI	Rhône-Poulenc Chimie	Kerimid
PI	Rhône-Poulenc Chimie	Kinel
PI-COM	Rogers Corp	Envex
PIB	BASF	Oppanol
PIB	Exxon Chemical	Parapol
PIB	Exxon Chemical	Vistanex
PIB	Shell	Duraflex
PMC	Ashland Chemical Corp.	Hetron
PMC	Ashland Chemical Co.	Aropol
PMC	Chromos Ro-Polimeri	Esterform
PMC	Haysite Reinforced Plastics	Haysite
PMC	Illing	Illandur
PMC	Isola Werke	Durapol
PMC	Menzolit Werke	Menzolit
PMC	Pheonix	Keripol
PMC	Resart	Resartherm
PMC	Scott Bader	Crystic Impreg
PMMA	Altulor	Altulite
PMMA	BASF	Lucryl
PMMA	Colors & Chemicals	Acrylite
PMMA	Elf Atochem S.A.	Altuglas
PMMA	ICI	Diakon
PMMA	Resart	Resarit
PMMA	Rohm and Haas	Oroglas V
PMMA-CO	Degussa AG	Degalan
PMMA-CO	Degussa AG	Degalan LP
PMMA-HI	Rohm and Haas	Oroglas DR
PMP	Misubishi	TPX
PO	Du Pont	Bynel
PO	Mitsui Sekka	Admer
PO-A	Hüls	Vestoplast
PO-A	Mitsui Sekka	Apel
PO-CO	Du Pont	Elvaloy
PO-CO	Mitsui Sekka	Tafmer
PO-LUB	Mitsui Sekka	Lubmer
PO-UHMW	Mitsui Sekka	Mipelon
PO-XL	Neste	Supersmooth
Polyarylate	Amoco Performance Products	Ardel
Polyketone	Amoco Performance Products	Kadel
POM	BIP Chemicals	Beetle
POM	Lati	Latan
POM	Snia	Sniatal
POM-CO	BASF	Ultraform
POM-CO	Hoechst/Hoechst Celanese	Hostaform
POM-CO	Hoechst/Hoechst Celanese	Kematal
POM-CO	Misubishi	Iupital
POM-H	Du Pont	Delrin
POM-H	Du Pont	Delrin II
POM-H	Du Pont	Delrin P
POM-H (HI)	Du Pont	Delrin 100 ST

Table 5b. Trade names/trade marks, abbreviations and suppliers of polymers and polymer compounds (sorted by alphabetical order of abbreviation) - contd

<i>Abbreviation</i>	<i>Supplier</i>	<i>Trade name/trade mark</i>
PP	Advanced Global Polymers	Adpro
PP	Appryl	Appryl
PP	Bamberger	Bapolene
PP	BASF	Novolen
PP	Bergmann	Bergaprop
PP	Chemie Linz	Daplen
PP	DSM (Dutch State Mines)	Stamylan P
PP	Eastman Chemicals	Tenite Polypropylene
PP	El Paso	Rexene
PP	Elf Atochem S.A.	Appryl
PP	Enron/Delong Prochem	Norchem
PP	Exxon Chemical	Escorene PP
PP	Himont	Moplen
PP	Himont	Profax
PP	Himont	Valtec
PP	Hoechst/Hoechst Celanese	Hostalen PP
PP	Hüls	Vestolen P
PP	Mitsui Sekka	Hipol
PP	Monmouth Plastics	Empee PP
PP	Neste	Nealid
PP	Norchem Inc	Nortuff
PP	Petrofina	Finapro
PP	Resinmec	Arcoplen
PP	Soltex Polymer Corp	Fortilene
PP	Solvay	Eref
PP	Statoil	Statoil polypropylene PP
PP	Washington Penn Plastics	Tancin
PP-A	DSM (Dutch State Mines)	Stamyroid
PP-CO	Himont	Hifax
PP-CO	ICI	Propathene
PP-CO	Solvay	Eltex P
PP-COM	Cabot Plastics	Plastech
PP-COM	Chemie Linz	Daplen
PP-COM	Ferro	Ferrolene
PP-COM	Himont	Astryl
PP-COM	Himont	Higlass
PP-COM	Hoechst/Hoechst Celanese	Hostacom PP reinforced
PP-COM	Hydro Polymers	Arpylene
PP-COM	ICI	Procom
PP-COM	Mitsui Sekka	Sunlet
PP-COM	Poly Pacific Pty	Corton
PP-COM	Schulman Inc	Polyfort
PP-CON	Cabot Plastics	Cabelec
PP-GF	Enichem	Technoprene
PP-GF	Enichem	Tecnoprene
PP-GF	Ferro	Starpylen
PP-GF	Mitsui Sekka	Mitsui FR-PP
PP-H	ICI	Propathene
PP-H	Solvay	Eltex P
PP-LF	Neste	Nepol
PP-LLD	Montecatini	Spherilene
PP-trans	Neste	Transpalene
PP-X	Arco	Arpro
PP/NBR	Advanced Elastomer Systems	Geolast
PPA	Amoco Performance Products	Amodel
PPO-M	BASF	Luranyl
PPO-M	General Electric Co.	Noryl
PPO-M	General Electric Co.	Prevex
PPO-M	Hüls	Vestoran
PPO-M	Shell	Caril
PPO-M/PA	BASF	Ultranyl
PPO-M/PA	General Electric Co.	Noryl GTX
PPS	Bayer	Tedur
PPS	Ciba Geigy	Crastron

Table 5b - contd

<i>Abbreviation</i>	<i>Supplier</i>	<i>Trade name/trade mark</i>
PPS	General Electric Co.	Supec
PPS	Hoechst/Hoechst Celanese	Fortron
PPS	Lati	Larton
PPS	Phillips Petroleum Chemicals	Ryton
PPS	Solvay	Primef
Proc. aid-acrylic	Kaneka/E W Seward Ltd.	Kane Ace PA
Proc. aid-rubbers	Enichem	Polyplastol
PS	Bamberger	Bapolan
PS	BASF	Polystyrol
PS	BP Chemicals	BP Polystyrene
PS	Dow	Styron
PS	Ecoplastics/Eco Chemicals	Ecolyte S
PS	Elf Atochem S.A.	Lacqrene
PS	Enichem	Edistir
PS	Huntsman	Huntsman Polystyrene
PS	Hüls	Vestyron
PS	Lati	Lastirol
PS	Linpac	Linpac Polystyrene
PS	Norsk Hydro	Polystyrol
PS	Orkem	Gedex
PS	Sterling Moulding Materials	Sternite
PS	Svenska	Vestyron
PSU	Amoco Performance Products	Radel
PSU	Amoco Performance Products	Udel
PSU	BASF	Ultrason E
PSU	BASF	Ultrason S
PSU	ICI	Victrex PES
PSU	Lati	Lasulf
PSU-COM	Amoco Performance Products	Mindel
PS-COM	Elf Atochem S.A.	Lacqrene
PS-HI	BASF	Polystyrol
PS-HI	Dow	Styron
PS-HI	Elf Atochem S.A.	Lacqrene
PS-HI	Enichem	Edistir
PS-HI	Huntsman	Huntsman Polystyrene
PS-HI	Neste	Neste PS
PS-HI	Norsk Hydro	Polystyrol
PS-HI	Shell	Carinex
PS-HI	Sterling Moulding Materials	Sternite
PS-X	Arco	Dylile
PS-X	BASF	Styropor
PS-X	BP Chemicals	Rigipore
PS-X	Elf Atochem S.A.	Gedexcel
PS-X	Enichem	Extir
PS-X	Hüls	Vestypor
PS-X	Shell	Styrocell
PS/SBS	Petrofina	Finaclear
PS/PMMA	Novacor	NAS
PS/PMMA/BD	Novacor	NAS
PTFE	Ausimont	Halon
PTFE	Du Pont	Teflon TFE
PTFE	Du Pont	Vydox
PTFE	Hoechst/Hoechst Celanese	Hostafion FEP
PTFE	ICI	Fluon
PTFE-CO	LNP Engineering Plastics Inc.	Fluomelt
PUR	Scott Bader	Crylic Kollerdur
PUR resins	Bayer	Baygal
PUR resins	Bayer	Baymidur
Purge compound	W S Wood Assoc.	Plasticlean
Purge compounds	Canada Color & Chemicals	Pax-Purge
PUR-casting	BASF	Elastopal
PUR-coating	BASF	Elastocoat
PUR-X	BASF	Cellasto
PVAL	Air Products and Chemicals Inc.	Airvol
PVAL-CO	Air Products and Chemicals Inc.	Vinex

Table 5b. Trade names/trade marks, abbreviations and suppliers of polymers and polymer compounds (sorted by alphabetical order of abbreviation) - contd

<i>Abbreviation</i>	<i>Supplier</i>	<i>Trade name/trade mark</i>
PVC	BASF	Vinoflex
PVC	BF Goodrich	Geon
PVC	Canadian General-Tower	Resilon
PVC	Elf Atochem S.A.	Lacovyl
PVC	European Vinyl Corp.	Corvic
PVC	European Vinyl Corp.	Vipla
PVC	Hoechst/Hoechst Celanese	Hostalit
PVC	Hüls	Vestolit
PVC	LVM	Marvylflo
PVC	Neste	Pekevic
PVC	Norsk Hydro	Norvinyl
PVC	Norsk Hydro	Pevikon
PVC	Novatec	Novablend
PVC	Polimeros De Mexico	Iztavil
PVC	Punda Inc.	Pekema
PVC	Solvay	Benvic
PVC	Solvay	Solvic
PVC	Vista Chemicals	Vista
PVC modifiers	BASF	Vinuran
PVC-C	BF Goodrich	TempRite
PVC-C	Elf Atochem S.A.	Lucalor
PVC-C	Kaneka/E W Seward Ltd.	Kane Ace
PVC-CO	BASF	Vinidur
PVC-COM	BF Goodrich	Geon CIM
PVC-COM	Elf Atochem S.A.	Nakan
PVC-COM	Evode Plastics Ltd.	GARY
PVC-COM	Hüls	Trosiplast
PVC-COM	Hüls	Vestolit
PVC-CON	BF Goodrich	Polytron
PVC-GF	BF Goodrich	Fiberloc
PVC-GF	Solvay	Benvic EV
PVC-HI	Hoechst/Hoechst Celanese	Hostalit Z
PVC-HT	BF Goodrich	Geon HTX
PVC-medical	BF Goodrich	Geon RX
PVC-P	Evode Plastics Ltd.	Thermaflo
PVC-U	Elf Atochem S.A.	Lucolene
PVC-U	Elf Atochem S.A.	Lucorex
PVC-U-COM	Dexter Plastics	Dural
PVC-X	Kaneka/E W Seward Ltd.	Kane Ace XEL
PVC/NBR	Alpha Chemical & Plastics	Vynite
PVC/PU	Alpha Chemical & Plastics	Vythene
PVC/PU/NBR AL	Dexter Plastics	Duralex
PVC/SR	Lati	Lastiflex
PVDC	Dow	Saran
PVDC	Scott Bader	Polyidene
PVDC	Solvay	Ixan
PVDF	Dynamit Nobel	Dyflor
PVDF	Elf Atochem S.A.	Foraflon
PVDF	Elf Atochem S.A.	Kynar
PVDF	Hüls	Dyflor
PVDF	Kay Fries	Dyflor
PVDF	Kureha	K F
PVDF	Penwalt	Kynar
PVDF	Solvay	Solef
RIM PA	DSM RIM Nylon	DSM Nyrin
SAN	BASF	Luran
SAN	Dow	Tyrl
SAN	Enichem	Kostil
SAN	Lati	Lastil
SAN	Snia	Sniasan
SAN/CPE/EPDM-AL	DSM (Dutch State Mines)	Ronfaloy-E
SBR	Enichem	Europrene
SBR	Hüls	Duranit
SBR-E	Enichem	Intol

Table 5b - contd

<i>Abbreviation</i>	<i>Supplier</i>	<i>Trade name/trade mark</i>
SBR-E	Hüls	Buna EM
SBR-L	Hüls	Buna SL
SBR-L	Hüls	Buna V
SBR-S	Enichem	Unidene
SBS	Rossi	Rossi Lightflex
SF-MB	LNP Engineering Plastics Inc.	Foam Kon
SMA	Monsanto	Cadon
SMA	Sartomer	SMA Resins
SMA-impact modified	Monsanto	Cadon 300
SMA/SR-AL	DSM (Dutch State Mines)	Stapron S
SMC	BASF	Palapreg
SMC	ERF	ERF SMC
SMC	Freeman Chemicals	Flomat
SMC	Freeman Chemicals	Flowmat
SMC	Rostone	Rosite
SMC	Sd West Chemie	Supraplast
SR	Elf Atochem S.A.	Norsorex
SR	Shell	Cariflex
SR-EMA	Du Pont	Vamac
T-compounds	Morton International	LP-R
T-liquid	Morton International	ELP
T-liquid	Morton International	LP
T-millable	Morton International	FA
T-millable	Morton International	ST
TP + microspheres	Buch and Kolce	Spheretex
TP-AL	Evode Plastics Ltd.	Garaprene
TP-AL	Evode Plastics Ltd.	Smokeguard
TP-AL	Evode Plastics Ltd.	Smokeguard HF
TP-AL	Evode Plastics Ltd.	Smokeguard II
TP-AL	Monsanto	Triax
TP-AL	Snia	Snialoy
TP-antistatic	BF Goodrich	Stat-Rite
TP-antistatic	Lati	Latistat
TP-CF	Ferro	Star-C
TP-CO	Orkem	Lotader
TP-COM	DSM (Dutch State Mines)	Apscom
TP-COM	Lindsay & Williams	Megolon
TP-COM	LNP Engineering Plastics Inc.	Thermocomp
TP-CON	LNP Engineering Plastics Inc.	Stat Kon
TP-EMI	Lati	Latishield
TP-EMI	LNP Engineering Plastics Inc.	EMI-X
TP-LF	Hoechst/Hoechst Celanese	Celstran
TP-LUB	Ferro	Star-L
TP-LUB	Lati	Latilub
TP-LUB	LNP Engineering Plastics Inc.	Lubricomp
TP-MAG	LNP Engineering Plastics Inc.	Magnacomp
TP-photodegradable	Ecoplastics/Eco Chemicals	Ecolyte
TP-SS	DSM (Dutch State Mines)	Faradex
TP-starch based	Warner Lambert	Novon
TP-styrene based	Dow	Rovel
TPA	Hüls	Vestener
TPE	Advanced Elastomer Systems	TPR
TPE	Advanced Elastomer Systems	Trefsin
TPE	Advanced Elastomer Systems	Vyram
TPE	Elf Atochem S.A.	Sunprene
TPE	Evode Plastics Ltd.	Evoprene
TPE	Evode Plastics Ltd.	Evoprene E
TPE	Evode Plastics Ltd.	Evoprene G
TPE	Evode Plastics Ltd.	Evoprene Super S
TPE	Republic Plastics	ETA
TPE	Shell	Ellexar
TPE EA-TPV	Du Pont	Alcryn
TPE-A	Dianippon	Glilax
TPE-A	Elf Atochem S.A.	Pebax
TPE-E	Cheil Synthetics Inc.	Esrel

Table 5b. Trade names/trade marks, abbreviations and suppliers of polymers and polymer compounds (sorted by alphabetical order of abbreviation) - contd

<i>Abbreviation</i>	<i>Supplier</i>	<i>Trade name/trade mark</i>
TPE-E	DSM (Dutch State Mines)	Arnitel
TPE-E	Du Pont	Hytrel
TPE-E	Eastman Chemicals	Ecdel
TPE-E	General Electric Co.	Lomod
TPE-E	Hoechst/Hoechst Celanese	Riteflex
TPE-EPDM	Hüls	Vestolen
TPE-EPDM	Lati	Larflex
TPE-O	Advanced Elastomer Systems	Vistaflex
TPE-O	Dexter Plastics	Dexflex
TPE-O	Hüls	Vestopren
TPE-O	Mitsui Sekka	Goodmer
TPE-O	Mitsui Sekka	Milastomer
TPE-OXL	Advanced Elastomer Systems	Dytron XL
TPE-PVC	LVM	Marvylex
TPE-RMPP	DSM (Dutch State Mines)	Kelburon
TPE-RMPP	DSM (Dutch State Mines)	Keltan TP
TPE-RMPP	Dynamit Nobel	Dynaform
TPE-RMPP	Ferro	Ferrolene-TPE
TPE-RMPP	ICI	Propathene OTE
TPE-S	Dexco Corp	Vector
TPE-S (SBS)	Enichem	Europrene
TPE-S (SBS)	Shell	Cariflex
TPE-S (SBS)	Shell	Kraton TR
TPE-S (SEBS)	Plastics Technology Services	PTS Thermoflex
TPE-S (SIS)	Enichem	Europrene
TPE-SBS	Petrofina	Finaprene
TPE-U	BASF/Elastogran	Elastollan
TPE-U	Bayer	Desmopan
TPE-U	BF Goodrich	Estane
TPE-U	Elastogran/BASF	Caprolan
TPE-U	ICI	Avalon
TPE-U (COM)	BF Goodrich	Estaloc
TPO-XL	Advanced Elastomer Systems	Santoprene
TPO-XL	Bayer	Levaflex
TPU	Lati	Lastane
TPU	Lati	Lastane
TPX	Mitsui Sekka	TPX
TPX-GF	Mitsui Sekka	FR-TPX
TST-acrylic resin	ICI	Modar
UF	BASF	Basopor
UF	BIP Chemicals	Beetle
UF	BIP Chemicals	Scarab
UF	Chemiplastica Spa	Urochem
UF	Dynamit Nobel	Polloplas
UF	S A Aicar	Carbaicar
UF	Sd West Chemie	Supraplast
UF	SIR (Società Italiana Resine)	Siritle
UF	Sterling Moulding Materials	Uroplast
UF resins	BIP Chemicals	Beetle
UF resins	SIR (Società Italiana Resine)	Celsir
UF resins	SIR (Società Italiana Resine)	Suramin
UP	BASF	Palatal
UP	Bayer	Legupren
UP	Bayer	Leguval
UP	Ciba Geigy	Ampal
UP	Fiberglass	Dion
UP	Jotun Polymer	Norpol
UP	Plastics Engineering Co.	Plenco
UP	Raschig	Ralupol
UP	Scott Bader	Crystic
UP-resin	Jotun Polymer	Norpol
UP-resins	Hüls	Vestopal
UP resins	BIP Chemicals	Beetle
UP resins	DSM Resins	Synolite

Table 5b - contd

<i>Abbreviation</i>	<i>Supplier</i>	<i>Trade name/trade mark</i>
UP resins	Fiberglass	Vibrin
UP resins	Mia Chemical	Miapol
UP resins	SIR (Società Italiana Resine)	Sirester
VC/VA	Elf Atochem S.A.	Lacovyl
VE	Dow	Derakane

Key

A	= amorphous.
AL	= alloy.
AR	= aromatic.
COM	= compound.
ETP	= engineering thermoplastics material.
GF	= glass fibre.
GMT	= glass mat reinforced thermoplastics material.
HI	= high impact.
HG	= high gloss.
HT	= high temperature.
ION	= ionomer.
LMW	= low molecular weight.
HMW	= high molecular weight.
DCF	= discontinuous fibre composite.
Encap	= encapsulating.
FF-TP	= fibre filled thermoplastics moulding compounds
LF-TP	= long fibre thermoplastics moulding compounds.
LMR	= liquid moulding resin.
Na	= sodium (neutralised).
NR-SP	= superior processing natural rubber.
NR-E	= epoxidized natural rubber.
NR-MG	= NR methacrylate graft rubber.
RC	= recycled.
SF-TP	= short fibre thermoplastics moulding compounds.
SF-MB	= structural foam masterbatch.
SS	= stainless steel (filler).
TP	= thermoplastics material.
TP-AL	= thermoplastic alloy.
TP-BIO	= thermoplastic compounds which are designed to be biodegradable.
TP-COM	= thermoplastic compounds.
TP-CON	= thermoplastic compounds which are designed to be conductive.
TP-EMI	= thermoplastics compounds which are EMI shielding.
TP-LUB	= thermoplastics compounds which contain a lubricant, for example, PTFE, silicone oil, graphite etc.
TP-MAG	= thermoplastics compounds which contain metal fillers and which are capable of being turned into magnets.
trans	= transparent material.
TST	= thermosetting material.
X	= expanded or expandable.
XL	= crosslinked or crosslinkable.
Zn	= zinc (neutralised)

Company alternative names or abbreviations

AES	- see Advanced Elastomer Systems.
Amoco Chemical	- see Amoco Performance Products.
Atochem	- see Elf Atochem S.A.
Dutch State Mines	- see DSM.
EMS-Grilon	- see EMS-Chemie.
GE Plastics	- see General Electric Co.
KGSB	= Kumpulan Guthrie Seridirian Berhad
	Plastiques Techniques - see Rhône-Poulenc Chimie.
RP	- see Rhône-Poulenc Chimie.
SWC	- see Süd West Chemie.

Table 6. *Drying conditions for injection moulding materials*

<i>Abbreviation</i>	<i>Water absorption %</i>	<i>Hot air drying Temp. °C</i>	<i>Dessicant drying No. of hours</i>	<i>Temp. °C</i>	<i>No. of hours</i>
ASA	>0.1	80 to 85	2 to 4	90	2 to 3
ABS	0.2 to 0.35	70 to 80	2 to 4	70 to 80	2
BDS	0.08	60	1 to 1.5	60	0.5
CA	4.5 to 6.0	*55 to 85	3 to 4	85	1 to 2
CAB	2.2	*55 to 85	3 to 4	85	1 to 2
CAP	2.8	*55 to 85	3 to 4	85	1 to 2
FEP	0.01	150	2 to 4	150	2 to 3
HIPS	0.08	70	2 to 3	70	1 to 2
PA6	1.6	80	16	105	12
PA66	1.5	85	16	105	12
PA11	0.4	85	5 to 6	85	3
PA12	>0.4	85	5 to 6	85	3
PBT	0.08	120 to 150	3 to 5	120 to 150	2 to 3
PC	0.16	120	2 to 4	120	2
PEBA (hard grades)	0.5	80	4	80	3
PEBA (soft grades)	2.5	70	6	70	4
PEEL (GP grades)	1.5	120	10	120	2 to 4
PEEL (HP grades)	0.6	90	10	90	2 to 4
PEEK	0.5	150	3	150	2 to 3
PE-HD	<0.01	65	3	80	1 to 1.5
PE-LD	<0.2	65	3	80	1 to 1.5
PE-LLD	<0.2	65	3	85	1 to 1.5
PES	0.6	135 to 150	3 to 4	135	2 to 3
PET-A	0.03	**135	4	135	2
PET-C	0.03	135	4	135	2
PMMA	0.3	75	2 to 4	90	3 to 4
POM-H	0.4	110	2 to 3	110	1 to 2
POM-CO	0.22	110	2 to 3	110	1 to 2
PPO	0.1	100	2	100	2
PPS	<0.05	150	6	150	3
PP-H and PP-CO	<0.2	65	3	85	1 to 1.5
PS (GPPS)	0.08	70	2 to 3	70	1 to 2
PSU	0.3	135 to 150	3 to 4	135 to 150	2 to 4
PVDF	0.05	80	2 to 4	80	2 to 4
SAN	0.25	75 to 80	3 to 4	85 to 90	1.5
TPU/PUR	0.3	80	3	80	1
UPVC	<0.2	65	3	80	1 to 1.5

*The temperature at which the material is dried at is dependent upon the material's flow characteristics, i.e. soft flow materials 55°C to 68°C and hard flow materials 70°C to 85°C.

**Some grades cannot be dried at temperatures >60°C.

HP grades = high performance grades; A = amorphous; C = crystalline.

Table 7. Heat contents of some injection moulding materials.

<i>Material Abbreviation</i>	<i>Temperature</i>			<i>Specific Heat</i> $\text{Jkg}^{-1}\text{K}^{-1}$	<i>Heat to be removed</i> Jg^{-1}
	<i>Melt</i> $^{\circ}\text{C}$	<i>Mould</i> $^{\circ}\text{C}$	<i>Difference</i> $^{\circ}\text{C}$		
FEP	350	200	150	1600	240
PES	360	150	210	1150	242
CA	210	50	160	1700	272
CAB	210	50	160	1700	272
CP	210	50	160	1700	272
PEEK	370	165	205	1340	275
PET	240	60	180	1570	283
PETP(C)	275	135	140	2180	305
PEEL	220	50	170	1800	306
POM	205	90	115	3000	345
SAN	240	60	180	1968	354
BDS	220	35	185	1968	364
PC	300	90	210	1750	368
ABS	240	60	180	2050	369
PMMA	260	60	200	1900	380
PPS	320	135	185	2080	385
PS	220	20	200	1970	394
ASA/AAS	260	60	200	2010	402
HIPS	240	20	220	1970	433
PPO	280	80	200	2120	434
PSU	360	100	260	1675	436
PETP(A)	265	20	245	1970	483
PA 11/12	260	60	200	2440	488
PA 6	250	80	170	3060	520
LDPE	210	30	180	3180	572
PA 66	280	80	200	3075	615
PP	260	20	240	2790	670
HDPE	240	20	220	3640	801

Where (A) is amorphous and (C) is crystalline.

Table 8. Shrinkage values

Abbreviation	Material	Mould shrinkage	Percentage
		in/in or mm/mm	
<i>Thermoplastics</i>			
ABS	Acrylonitrile-butadiene-styrene	0.004-0.007	0.4-0.7
POM	Acetal	0.020-0.035	2.0-3.5
PMMA	Acrylic	0.002-0.010	0.3-1.0
CA	Cellulose acetate	0.003-0.007	0.3-0.7
CAB	Cellulose acetate butyrate	0.002-0.005	0.2-0.5
CP	Cellulose propionate	0.002-0.005	0.2-0.5
EVA	Ethylene vinyl acetate	0.007-0.020	0.7-2.0
FEP	Fluorinated ethylene propylene	0.030-0.060	3.0-6.0
PA6	Nylon 6	0.010-0.015	1.0-1.5
PA66	Nylon 66	0.010-0.020	1.0-2.0
PBT	Polybutylene terephthalate	0.015-0.020	1.5-2.0
PBT GF 30%	Polybutylene terephthalate + 30% glass fibre	0.003-0.008	0.3-0.8
PC	Polycarbonate	0.006-0.008	0.6-0.8
PC GF 30%	Polycarbonate + 30% glass fibre	0.003-0.005	0.3-0.5
PES	Polyethersulphone	0.006-0.008	0.6-0.8
LDPE	Polyethylene (low density)	0.015-0.040	1.5-4.0
HDPE	Polyethylene (high density)	0.015-0.040	1.5-4.0
PPO	Polyphenylene oxide (modified)	0.005-0.007	0.5-0.7
PPO GF 30%	Polyphenylene oxide (modified) + 30% glass fibre	0.002	0.2
PP	Polypropylene	0.010-0.030	1.0-3.0
PS	Polystyrene(GP)	0.002-0.008	0.2-0.8
TPS	Polystyrene (toughened)	0.002-0.008	0.2-0.8
PTFE	Polytetrafluoroethylene	0.050-0.100	5.0-10.0
UPVC	Polyvinyl chloride (rigid)	0.002-0.004	0.2-0.4
PVC	Polyvinyl chloride (plasticized)	0.015-0.050	1.5-5.0
SF	Structural foam	0.006	0.6
PVF	Polyvinylidene fluoride	0.020-0.030	2.0-3.0
SAN	Styrene-acrylonitrile	0.002-0.006	0.2-0.6
<i>Thermoplastic elastomers</i>			
PP/EP(D)M	Rubber reinforced polypropylene	0.010-0.020	1.0-2.0
SBS	Styrene-butadiene-styrene	0.004-0.010	0.4-1.0
PEEL	Thermoplastic polyether ester	0.004-0.016	0.4-1.6
TPU	Thermoplastic polyurethane	0.005-0.020	0.5-2.0
<i>Thermosets</i>			
MF	Melamine formaldehyde	0.006-0.010	0.6-2.0
PF	Phenol formaldehyde	0.007-0.012	0.7-1.2
UF	Urea formaldehyde	0.006-0.010	0.6-1.0
DMC	Dough moulding compound	0.0005-0.002	0.05-0.2

Table 9. Relative densities of some compounding ingredients and other materials

<i>Material</i>	<i>Relative density (RD) or specific gravity (SG)</i>	<i>Material</i>	<i>Relative density (RD) or specific gravity (SG)</i>
Acetone	0.79	Chalk	
Activated calcium carbonate	2.6	crushed	1.44
Acrylonitrile butadiene styrene	1.01 to 1.07	solid	2.48
Aluminium	2.7	China clay (kaolin)	2.50
Aluminium (cast)	2.9	Chlorinated biphenyl	1.2 to 1.7
Aluminium oxide (fibre)	3.9	Chlorinated paraffin	
Aluminium silicate	2.60	44% chlorine content	1.16
Aluminium stearate	1.07	51% chlorine content	1.25
Aluminium trihydrate	2.42	Chlorinated polyethylene (CPE)	1.16
Ammonia	0.91	Chlorinated rubber	1.64
Ammonium bicarbonate	1.58	Chlorobutyl rubber	0.92
Ammonium carbonate	1.59	Chloroform	1.48
Aniline	1.02	Chlorobenzene	1.10
Antimony sulphide (without free sulphur)	3.6	Chrome oxide green	5.21
Antimony trioxide	5.4	Clays	
Artificial silk (viscose)	1.52	Kaolinite	2.60
Asbestos (chrysotile)	2.55	Calcined	2.63
Asbestos (hornblende)	2.7 to 3.6	Coal tar	1.18
Asbestos (serpentine)	2.3 to 2.8	Coal tar pitch	1.2
Asphalt	0.95 to 1.5	Copper	8.93
Balata	0.97	Cork (ground)	0.4 to 1.4
Barium sulphate (barytes)	4.4 to 4.6	Cornflour	1.5
Barium sulphate (blanc fixe)	4.25	Corundum	4.0
Barytes (ground barium sulphate)	4.45	Cotton	1.45
Barytes (barium sulphate)	4.4 to 4.6	Cotton flock	1.45
Basic zinc carbonate or zinc oxide (transparent)	3.5	Cottonseed oil	0.92
Beeswax	0.96	Coumarone-indene resin	1.11
Bentonite clay	2.50	Cresyl diphenyl phosphate (CDP)	1.21
Benzene	0.88	Cyclic oil	0.92
Benzoic acid	1.27	Cyclized rubber	0.99
Benzthiazyl-disulphide or dibenzothiazole-disulphide (MBTS)	1.5	Cyclohexanone	0.94
Benzyl alcohol	1.04	Cyclohexyl-2-benzthiazyl sulphenamide (CBS)	1.28
Benzyl butyl phthalate	1.10	Dekalin (decahydronaphthalene)	0.88
Bitumen (oxidized)	1.04	Dialphanyl phthalate (DAP or di-C7-C9 phthalate)	1.00
Beryllium (fibre)	1.84	Diatomaceous earth	2.15
Beryllium oxide (fibre)	1.8	Dibenzothiazole-disulphide (MBTS)	1.5
Black — see Carbon black		Dibenzyl ether	1.04
Blanc fixe (barium sulphate)	4.25	Dibenzyl sebacate	1.05
Boron (fibre)	2.59	Dibutoxyethoxy ethyl adipate	1.03
Brass	8.4 to 8.7	Dibutoxyethyl adipate	1.00
Brown iron oxide	5.15	Dibutoxyethyl sebacate	0.97
Butadiene (0°C)	0.65	Dibutyl amine	0.75
Butyl acetyl ricinoleate	0.93	Dibutyl adipate (DBA)	0.96
Butyl alcohol	0.8	Dibutyl phthalate (DBP)	1.05
Butyl benzyl phthalate (BBP)	1.12	Dibutyl sebacate (DBS)	0.94
Butyl benzyl sebacate (BBC)	1.02	Diethyl phthalate (DEP)	1.12
Butyl cyclohexyl phthalate (BCHP)	1.08	Dicapryl phthalate (DCP)	0.97
Butyl rubber	0.92	Di-C7-C9 phthalate (DAP)	1.00
Butyraldehyde-aniline product (BA)	0.96	Diethylene glycol dibenzoate (DEGB)	1.18
Cadmium oxide	8.20	Di-2-ethylhexyl adipate (DOA)	0.93
Cadmium red	4.4 to 5.4	Di-2-ethylhexyl phthalate (DEHP or DOP)	0.99
Cadmium yellow	4.1 to 4.6	Di-2-ethylhexyl sebacate (DOS)	0.92
Cadmium sulphide	4.40	Di-iso-butyl adipate (DIBA)	0.95
Calcium carbonate (activated and precipitated)	2.6	Di-iso-butyl azelate (DIBZ)	0.94
Calcium carbonate (ground whiting)	2.70	Di-iso-butyl phthalate (DIBP)	1.04
Calcium hydroxide	2.28	Di-iso-decyl adipate (DIDA)	0.92
Calcium silicate		Di-iso-decyl phthalate (DIDP)	0.97
Wollastonite	2.90	Di-iso-octyl adipate (DIOA)	0.93
Precipitated	2.23	Di-iso-octyl azelate (DIOZ)	0.92
Calcium stearate	1.04	Di-iso-octyl phthalate (DIOP)	0.98
Camphor	1.0	Di-iso-octyl sebacate (DIOS)	0.92
Carbon black	1.81	Di-2-methoxy phthalate	1.17
Carbon disulphide	1.26	Dinonyl phthalate (DNP)	0.97
Carbon tetrachloride	1.63	Di-(o-benzamidophenyl) disulphide	1.35
Carnauba wax	0.99	Diocetyl adipate	0.93
Casein (lactic)	1.25 to 1.30	Diocetyl phthalate (DOP or di-2-ethylhexyl phthalate DEHP)	0.99
Cast aluminium	2.9	Di-ortho tolyl guanidine (DOTG) or di-o-tolylguanidine (DOTG)	1.19
Castor oil	0.96	Dipentamethylene thiuram tetrasulphide (DPTT)	1.50
Cellulose acetate butyrate (CAB)	1.15 to 1.21	Di-t-butyl peroxide	0.79
Cellulose acetate CA)	1.26 to 1.30	Diphenyl guanidine (DPG)	1.19
Ceresin wax	0.93		

Table 9. Relative densities of some compounding ingredients and other materials - contd

Material	Relative density (RD) or specific gravity (SG)	Material	Relative density (RD) or specific gravity (SG)
Ditridecyl phthalate (DTDP)	0.95	Kaolin (kaolin clay or china clay)	2.50
Dioxane	1.04	Kerosene	0.82
Diphenylguanidine (DPG)	1.19	Kieselguhr	2.20
Ditridecyl phthalate	0.95	Lanolin (wool grease)	0.97
Dolomite	2.34	Lauric acid	0.90
Duraluminium	2.8	Lead	11.37
Earth wax (ozocerite or ozokerite or mineral wax)	0.9	Lead chromate	5.70
Ebonite dust	1.15 to 1.2	Lead monoxide (litharge)	9.3 to 9.5
Emery	3.7 to 4.0	Lead powder	1.34
Epoxidized soya bean oil (epoxidized soybean oil)	0.99	Lead sulphate	6.20
Ether	0.72	Lead	11.34
Ethyl acetate	0.9	Leather	0.9 to 1.0
Ethyl alcohol	0.78	Light magnesium carbonate	2.19
Ethylene bis-stearamide (EBS)	0.97	Lignin	1.30
Ethylene chloride	1.26	Lime (hydrated or slaked)	2.10
Ethylene diamine	0.90	Linseed oil	0.94
Ethylene glycol	1.12	Litharge (lead monoxide)	9.3 to 9.5
Ethylene propylene rubbers	0.87	Lithopone (30% zinc sulphide)	4.15
Ethylene thiourea	1.28	Lithopone (40% zinc sulphide)	4.06
Ethylene vinyl acetate	0.95	Lycopodium	1.6
Ethyl iodide	1.93	Magnesia (heavy calcined)	3.20
Factice — brown	1.0 to 1.1	Magnesia (light calcined)	3.20
Factice — white	1.06 to 1.15	Magnesium	1.74
Ferric oxide	5.14	Magnesium carbonate (light)	2.19
Fluoroelastomers	1.72 to 1.86	Magnesium oxide	3.60
Formaldehyde (30%)	1.09	Magnesium silicate	2.72
Fossil flour	2.15	Mercaptobenzthiazole (MBT) or 2-mercaptobenzthiazole	1.42
French chalk	2.72	Mercury	13.55
Fuller's earth	2.15	Methacrylate butadiene styrene (MBS)	0.99
Gelatin	1.27	Methanol (methyl alcohol or wood alcohol)	0.79
Gilsonite	1.10	Methyl acetate	0.9
Glass (E type fibre)	2.55	Methyl alcohol (methanol or wood alcohol)	0.79
Glass (S type fibre)	2.49	Methylene chloride	1.34
Glue (bone)	1.27	Methylene iodide	3.32
Glycerine — see Glycerol		Methyl ethyl ketone (MEK)	0.83
Glycerol	1.27	Mica (muscovite)	2.75
Glycerol diacetate	1.19	Mineral oil (aromatic)	1.02
Glycerol monoacetate	1.19	Mineral oil (naphthenic)	0.93
Glycerol monolaurate	0.97	Mineral oil (paraffinic)	0.86
Glycerol mono-oleate	0.95	Mineral rubber	1.04
Glycerol monoricinoleate	0.98	Mineral spirit (white spirit)	0.8
Glycerol monostearate (GMS)	0.97	Mineral wax	0.9
Glycerol triacetate	1.16	Montan wax	0.81
Glycerol tributyrates	1.04	Myristic acid	0.86
Gold	19.25	Naphthalene	1.16
Granite	2.56	Natural rubber	0.93
Graphite	2.2 to 2.6	N-cyclohexylbenzthiazole-2-sulphenamide (CBS)	1.30
Graphite flake	2.25	Nepheline syenite	2.60
Ground glass	2.4 to 2.6	n-Heptane	0.75
Ground slate	2.8	Nibrán wax	1.6 to 1.7
Ground whiting (calcium carbonate)	2.70	Nitrile rubber (high acrylonitrile)	1.00
Guayule	0.96	Nitrile rubber (low acrylonitrile)	0.98
Gutta percha	0.98	Nitrobenzene	1.21
Hard rubber dust	1.17 to 1.20	N-nitroso-diphenylamine	1.27
Hexa or hexamethylenetetramine	1.02	n-octyl n-decyl adipate (NODP)	0.92
Hexamethylenetetramine or hexa	1.02	n-octyl n-decyl phthalate (NODP)	0.98
Hexalin	0.9	Nylon 66	1.14
Hornblende (asbestos)	2.7 to 3.6	o-Dichlorobenzene	1.30
Hydantoin-glycol fatty ester (a distearate ester)	1.03	Oil — castor	0.96
Hydrated alumina	2.42	Oil — cottonseed	0.92
Hydrated chrome oxide (green)	3.4	Oil — mineral (aromatic)	1.02
Hydrated lime	2.1	Oil — mineral (naphthenic)	0.93
Hydrated magnesium silicate or talc or french chalk	2.72	Oil — mineral (paraffinic)	0.86
Hydrogenated tallow glyceride (HTG)	0.96	Oil — palm	0.88
Infusorial earth	2.15	Oil — pine	0.93
Iron	7.5 to 7.9	Oil — rape	0.92
Iron oxide (red)	5.14	Oil — tall	0.95 to 1.0
Iron oxide (yellow)	4.1	Oleic acid or red oil	0.89
Isooctyl isodecyl phthalate (IODA)	0.99	Ozokerite (ozocerite or earth wax or mineral wax)	0.9
Isooctyl palmitate	0.86	Palm oil	0.88
Isoprene	0.68	Paraffin oil	0.86
Isopropyl alcohol	0.8	Paraffin wax	0.88 to 0.91

Table 9. - *contd*

<i>Material</i>	<i>Relative density (RD) or specific gravity (SG)</i>	<i>Material</i>	<i>Relative density (RD) or specific gravity (SG)</i>
Paraffin wax—refined	0.90	Talc	2.72
Pentachloroethane	1.67	Tall oil	0.95 to 1.0
Perchloroethylene	1.62	Tallow	0.95
Petrolatum	0.84	Turpentine oil	0.87
Petroleum ether	0.6	Tetra ethyl thiuram disulphide (TETD)	1.26
Petroleum jelly	0.84 to 0.89	Tetra methyl thiuram disulphide (TMTD)	1.29
Petroleum spirit	0.68 to 0.75	Tetra methyl thiuram monosulphide (TETD)	1.38
Phenolic resin	1.27	Tetrahydronaphthalene (tetralin)	0.98
Phenyl- α -naphthylamine	1.17 to 1.22	Tetralin (tetrahydronaphthalene)	0.98
Phenyl- β -naphthylamine	1.18 to 1.24	Tetramethylthiuram disulphide (TMTD)	1.42
Phthalic anhydride	1.52	Tetramethylthiuram monosulphide (TMTM)	1.38
Pine oil	0.93	Thiocarbamide	1.30
Pine pitch	1.11	Tin	7.28
Pine tar (soft wood tar)	1.03 to 1.09	Titanium dioxide (anatase)	3.90
Plaster of Paris	2.32	Titanium dioxide (rutile)	4.20
Platinum	21.4	Toluene	0.87
Polyacrylic rubber	1.05 to 1.15	Tri-butoxyethyl phosphate (TBEP)	1.02
Polybutadiene rubber	0.94	Tributyl phosphate (TBP)	0.98
Polyester plasticizers	1.0 to 1.1	Trichloroethylene	1.47
Polyethylene—high density	0.94 to 0.97	Tricresyl phosphate (TCP)	1.16
Polyethylene—low density	0.92 to 0.94	Tri-2-ethylhexyl phosphate (TOF)	0.93
Polyisoprene rubber	0.92	Triphenylguanidine	1.10
Polymethylpentene	0.83	Triphenyl phosphate (TPP)	1.19
Polypropylene	0.90	Tritolyl phosphate (TTP)	1.17
Polypropylene sebacate	1.06	Trixylyl phosphate (TXP)	1.14
Polystyrene	1.05	Ultramarine blue	2.35
Polytetrafluoroethylene (PTFE)	2.1 to 2.3	Urea	1.34
Precipitated whiting (calcium carbonate)	2.62	Vaseline	0.86 to 0.90
Pumice—powdered	2.35	Vermilion	8.20
Rape oil	0.92	Vinyl chloride graft (VGC) copolymer PVC onto EVA	1.13
Red oil or oleic acid	0.89	Viscose (artificial silk)	1.52
Red lead	8.7	Water	
Rosin	1.08	fresh	1.00
Rosin oil	0.99	salt	1.03
Salicylic acid	1.44	White lead	6.27
Selenium	4.8	White spirit (mineral spirit)	0.8
Shellac	1.15	Whiting (ground calcium carbonate)	2.70
Silica	1.95	Whiting (precipitated calcium carbonate)	2.62
Silica—colloidal	2.1	Whole tyre reclaim	1.20
Siliceous earth	2.2 to 2.6	Wollastonite	2.9
Silicon carbide	3.17	Wood alcohol (methyl alcohol or methanol)	0.79
Silicon nitride	3.2	Wood flour	1.25
Silver	10.5	Wool	1.32
Slaked lime	2.1	Wool grease (lanolin)	0.97
Slate powder	2.8	Xylene	0.86
Soapstone	2.72	Zinc	7.14
Sodium acetate	1.45	Zinc dibutyl dithiocarbamate	1.21
Sodium carbonate	2.2	Zinc diethyl dithiocarbamate	1.50
Sodium benzoate	2.8	Zinc dimethyl dithiocarbamate	1.75
Sodium bicarbonate	2.20	Zinc carbonate (precipitated)	3.30
Soft wood tar (pine tar)	1.04	Zinc ethyl phenyl dithiocarbamate	1.50
Starch	1.5	Zinc isopropylxanthate (ZIX)	1.54
Stearic acid	0.92	Zinc laurate	1.10
Stearine (pale flake)	0.85	Zinc mercaptobenzothiazole (ZMBT)	1.64
Steel	7.9	Zinc oxide	5.57
Styrene butadiene rubber	0.93	Zinc stearate	1.06
Sulphur	2.04	Zinc sulphide	3.9 to 4.2
Sulphur monochloride	1.68 to 1.71		

Table 10. *Plastics identification chart*

<i>Abbn</i>	<i>S.G.</i>	<i>Softening Temp. °C</i>	<i>Ease of ignition</i>	<i>Self ext. property</i>	<i>Colour of flame</i>	<i>Odour on burning</i>	<i>Behaviour on burning</i>
Opaque Materials							
ABS	1.02-1.06	104	Quite easily	No	Yellow and smoky.	Sweet and rubbery smell.	Softens, blackens, and bubbles
DAP/DAIP	2.0-2.2	110	Quite easily	No	Yellow and smoky.	Pungent smell.	Discolours chars and cracks.
EPOXY	1.11-1.40	149 to 260	Easily	No	Yellow and smoky.	Like burnt flour.	Blackens and softens.
HIPS	1.05	73 to 78	Easily	No	Yellow with black	Distinctly styrenic (flowery).	Melts and bubbles.
MF	1.48	120	Difficult	Yes	Yellow.	Formaldehyde.	Discolours chars and cracks.
PA6	1.12-1.13	220	Easily	Yes	Blue with yellow edge.	Burnt hair.	Melts and froths.
PA66	1.13	256	Easily	Yes	Blue with yellow edge.	Like celery.	Melts and froths.
PBT	1.31	225	Easily	Yes	Mostly white and smoky		Melts forming burning droplets.
PE-LD	0.90-0.92	104	Easily	No	Blue with a yellow top.	Candle wax	Melts with burning droplets.
PE-HD	0.94-0.96	120	Easily	No	Blue with a yellow top.	Candle wax.	Melts as burning droplets.
PF	1.15-2.08	120	Quite easily	Yes	Mostly yellow with black smoke.	Phenol.	Chars and cracks.
PETPc	1.4	260	Easily	Yes	Yellow.	Little odour.	Blackens and swells.
PP	0.90	79 to 116	Easily	No	Blue with yellow top.	Candle wax.	Melts forming burning droplets.
POM	1.41	104	Not so easily	No	Pale blue	Pungent smell.	Melts forming droplets.
PPO	1.06	80 to 102	Easily	No	Yellow and smoky	Sweet, floral, faintly phenolic.	Sooty deposits.
PPS	1.4	282	Difficult	Yes	No flame	Sulphur.	Chars and blisters.
PPVC	1.3-1.4	66 to 88	Not so easily	Yes	Yellow and smoky	Biting acidic.	Melts and forms burning droplets.
PTFE	2.13	290	Does not ignite	Yes	No flame	Odourless.	Becomes clear and putty like.
UF	1.5	77	Difficult	Yes	Yellow with	Fishy.	Swells, cracks, discolours.
UPVC	1.4-1.5	66 to 92	Not so easily	Yes	Yellow	Biting acidic.	Softens and blackens.
Transparent Materials							
BDS	1.01-1.02		Easily	No	Yellow and sooty	Styrenic smell.	Blackens and bubbles.
CA	1.23-1.34	60 to 100	Easily	No	Yellow with black smoke	Sharp vinegary acidic smell.	Melts forming burning droplets.
CAB	1.15-1.22	60 to 100	Easily	No	Dark yellow, blue edges.	Rancid cheese or butter.	Melts forming burning droplets.
EVA	0.93-0.97	88 to 93	Easily	No	Blue with a hint of yellow.	Faintly vinegary.	Melts forming burning droplets.
GPPS	1.04	78 to	Easily	No	Yellow and black smoke.	Flowery with distinct smell of styrene.	Melts and bubbles.
PEI	1.27	200	Easily	Yes	Yellow.	Faintly phenolic.	Blackens and bubbles.
PC	1.20	135	Not so easily	Yes	Yellow and smoky.	Faintly phenolic.	Softens, bubbles and carbonises.
PES/PSU	1.37 1.24		Not easily	No	White.	Sulphur	Chars.
PETPa	1.38	230	Easily	Yes	Bright yellow.	Bitter-sweet smell	Blackens and forms burning droplets.
PMMA	1.19	60 to 88	Easily	No	Blue with yellow top.	Fruity and smoky.	Melts and bubbles.
PUR/TPU	1.11-1.22	80 to 100	Easily	No	Bright		Melts candle-like forming flame burning droplets.
SAN	1.08	60 to 96	Easily	No	Yellow and smoky.	Sweet, floral.	Blackens and bubbles.

a = amorphous; c = crystalline.

Table 11. Suggested (based on BS and ISO) conditions for MFR tests

Abbreviation	Common name	Test temp. °C	Ref time s	Nominal force N
ABS	Acrylonitrile butadiene styrene	220	600	98.0
PE	Polyethylene	190	600	21.2
PE	Polyethylene	190	150	49.0
PE-HMW	Polyethylene-high molecular weight	190	600	212.0
PP	Polypropylene-powder	190	600	98.0
PP	Polypropylene	230	600	21.2
PS	Polystyrene (GPPS)	200	600	49.0
SAN	Styrene acrylonitrile copolymer	220	600	98.0
SAN	Styrene acrylonitrile copolymer	230	600	37.3

Table 12. Moisture content limit for good injection mouldings

Material	Moisture content limit %
Acrylic	0.05
Acrylonitrile-butadiene-styrene*	0.02
Cellulosics	0.40
Nylon 6 and 66	0.25
Nylon 11 and Nylon 12	0.01-0.10
Polycarbonate	0.02
Polystyrene	0.10
Polyvinyl chloride	0.08
Styrene-acrylonitrile	0.10
Thermoplastic polyester*	0.01

*The actual moisture level may depend on the application: for some ABS mouldings the moisture may be above that given in the table but for plating grades very low levels are recommended

Table 13. Suggested temperature settings for high shear rate rheometry

Abbreviation	Temperature setting °C/°F	Range °C/°F
ABS	240/464	230-270/446-518
ASA	260/500	250-280/482-536
BDS	220/428	190-230/374-446
EVA	180/356	140-225/284-437
FEP	350/662	300-380/572-716
HDPE	240/464	205-280/401-536
HIPS	240/464	200-270/392-518
LDPE	210/410	180-280/350-536
LLDPE	210/410	160-280/350-536
PA	See PA 6, PA 11, PA 12 and PA 66	
PA 6	250/482	230-280/446-536
PA 11	255/491	240-300/464-572
PA 12	255/491	240-300/464-572
PA 66	280/536	260-290/500-554
PBT	250/482	220-260/428/500
PC	300/572	280-320/536-608
PE	See HDPE, LDPE and LLDPE	
PEEK	370/698	360-380/680-716
PEI	380/716	340-425/640-800
PET	275/527	260-300/518-572
PES	360/680	330-380/626-716
PMMA	240/464	210-270/410-518
POM-CO	205/401	190-210/374-410
POM-H	215/419	190-230/374-446
PP	240/464	220-275/428-527
PPE	See PPO	
PPO	280/536	260-300/500-572
PPS	320/608	290-360/554-680
PPVC	180/356	175-200/347-392
PS	220/428	200-250/392-482
PSU	360/680	330-380/626-716
PVC	See PPVC and UPVC	
PVDF	225/437	220-250/428-482
SAN	240/464	200-270/392-518
UPVC	195/383	185-205/364-401
RMPP	240/464	220-275/428-527
TPE	See TPE-A, TPE-E, TPE-S, TPE-U and TPE-OXL	
TPE-A	200/392	185-240/364-464
TPE-E	220/428	195-255/383-491
TPE-S	170/338	150-200/302-394
TPE-U	200/392	180-230/356-446
TPE-OXL	190/374	180-200/356-392

Table 14. *Moldflow data for PA 6*

Grade	Viscosity (Nsm^{-2}) at $1,000s^{-1}$ at the following temperatures			
	$^{\circ}C/^{\circ}F$	$^{\circ}C/^{\circ}F$	$^{\circ}C/^{\circ}F$	$^{\circ}C/^{\circ}F$
Akzo 'Akulon'	240/464	260/500	280/536	300/572
Easy flow grade	98	78	63	50
Medium flow grade	149	115	89	69
Stiff flow grade	394	319	259	210

Grade	Viscosity (Nsm^{-2}) at $280^{\circ}C/536^{\circ}F$.			
	$100s^{-1}$	$1,000s^{-1}$	$10,000s^{-1}$	$100,000s^{-1}$
Easy flow grade	197	63	20	6
Medium flow grade	323	89	25	7
Stiff flow grade	1220	259	55	12

Table 15. *Carbon black classification*

Iodine absorption g/kg	Particle diameter nm	Old Code	Type of black	ASTM No.
145	11 to 19	SAF	Super abrasion furnace	N110
121	20 to 25I	SAF	Intermediate super abrasion furnace	N220
121	—	ISAF-HS	Intermediate super furnace - high structure	N2242
82	—	HAF-LS	High abrasion furnace - low structure	N326
82	26 to 30	HAF	High abrasion furnace	N330
90	—	HAF-HS	High abrasion furnace - high structure	N346
—	26 to 30	EPC	Easy processing channel	S300
—	26 to 30	MPC	Medium processing channel	S301
90	—	HAF-HS(NT)	High abrasion furnace - high structure (new technology)	N339
—	31 to 39	FF	Fine furnace	N440
43	40 to 48	FEF	Fast extrusion furnace	N550
36	49 to 60	GPF	General purpose furnace	N660
—	49 to 60	HMF	High modulus furnace	N601
—	61 to 100	SRF	Semi-reinforcing furnace	N770
29	—	SRF-NS	Semi-reinforcing furnace - non-staining	N774
—	101 to 200	FT	Fine thermal	N880
—	201 to 500	MT	Medium thermal	N990

Appendix A: SI units - advice on use

SI is an abbreviation used for *Système International d'Unité*. Singular and plural forms of SI unit abbreviations or symbols, are the same. That is, do not put the letter s after the unit abbreviation, or symbol, if specifying more than one of a particular unit. SI symbols are always in roman type.

A period (full stop) is not used with the unit abbreviations or symbols, except at the end of the sentence.

A space is left between the number and the unit abbreviation or symbol, except when the temperature is specified in degrees Celsius (centigrade).

When the temperature is specified in degrees Celsius (centigrade) then Celsius begins with a capital C (upper case) and the unit abbreviation or symbol is also written with a capital C. The capital C (upper case C) is prefixed with a small zero written level with the top of the C. That is, °C. The small zero is associated with the numerical value of the temperature rather than with the capital C (upper case C).

Unit abbreviations or symbols, are written in lower case letters except when the unit abbreviation or symbol, is derived from a proper name. The full name of the unit abbreviation or symbol, is written in lower case letters even when it is derived from a proper name. So, the units named after Pascal would be written as pascal and abbreviated to Pa. One pascal would be abbreviated to 1 Pa and 14 pascals would be abbreviated to 14 Pa and not to 14 Pas.

Plurals of unit names.

Compound units formed by multiplication are written in a number of ways. For example, newton metres may be written as Nm or as, N.m or as, N m with a large dot between the two letters and level with the top of the lower case letter. That is, for example, as N·m. Although this last suggestion is preferred it is difficult to do well on many typewriters or word processors.

Compound units formed by division are written in a number of ways. For example, newtons per square metre may be written as N/m² or as, Nm⁻². The suggestion N/m², is preferred. That is, the unit abbreviations or symbols, are separated by a solidus or oblique stroke.

Compound prefixes are not used. That is, one million metres would be written as 1 Mm and not 1 kkm.

Common fractions, are not used. That is, one half of a kilogram would be written as 0.5 kg and not 1/2 kg.

Prefixes are not used in the denominator of a compound unit - except for kilograms as a kilogram is a base unit of the SI system. That is, one million newtons per square metre would be written as 1 MN/m² and not as 1 N/mm². (One newton per square millimetre is the same as one million newtons per square metre.)

It is suggested that for simplicity, when calculations are being performed, that prefixes are changed so that powers of ten are used. That is, decimal multiples are used.

It is suggested that when decimal multiples are used, that the prefix used should be 10 raised to a power that is a multiple of 3.

It is suggested for ease of understanding that when density is discussed, that the units are Mg/m³ rather than kg/m³. This gives values which have the same numerical values as the well established g/cm³ values or SG values.

To avoid misunderstandings avoid the use of the word billion; use a prefix such as giga (G) (Note, prefixes E P T G & N are capitalized).

Do not use a comma to separate groups of digits as it is used as a decimal marker in some countries.

Appendix B: SI Prefixes

Please note that the prefixes hecto, deca, deci and centi are non-preferred.

Prefix	Symbol	Value	Multiply unit by
Exa	E	10 ¹⁸	1 000 000 000 000 000 000·
Peta	P	10 ¹⁵	1 000 000 000 000 000·
Tera	T	10 ¹²	1 000 000 000 000·
Giga	G	10 ⁹	1 000 000 000·
Mega	M	10 ⁶	1 000 000·
Kilo	k	10 ³	1 000·
Hecto	h	10 ²	100·
Deca	da	10 ¹	10·
Deci	d	10 ⁻¹	0.1
Centi	c	10 ⁻²	0.01
Milli	m	10 ⁻³	0.001
Micro	μ	10 ⁻⁶	0.000 001
Nano	n	10 ⁻⁹	0.000 000 001
Pico	p	10 ⁻¹²	0.000 000 000 001
Femto	f	10 ⁻¹⁵	0.000 000 000 000 001
Atto	a	10 ⁻¹⁸	0.000 000 000 000 000 001

Symbol	Prefix	Value	Multiply unit by
E	exa	10 ¹⁸	1 000 000 000 000 000 000·
P	peta	10 ¹⁵	1 000 000 000 000 000·
T	tera	10 ¹²	1 000 000 000 000·
G	giga	10 ⁹	1 000 000 000·
M	mega	10 ⁶	1 000 000·
k	kilo	10 ³	1 000·
h	hecto	10 ²	100·
da	deca	10 ¹	10·
d	deci	10 ⁻¹	0.1
c	centi	10 ⁻²	0.01
m	milli	10 ⁻³	0.001
μ	micro	10 ⁻⁶	0.000 001
n	nano	10 ⁻⁹	0.000 000 001
p	pico	10 ⁻¹²	0.000 000 000 001
f	femto	10 ⁻¹⁵	0.000 000 000 000 001
a	atto	10 ⁻¹⁸	0.000 000 000 000 000 001

Value	Prefix	Symbol	Multiply unit by
10 ¹⁸	Exa	E	1 000 000 000 000 000 000·
10 ¹⁵	Peta	P	1 000 000 000 000 000·
10 ¹²	tera	T	1 000 000 000 000·
10 ⁹	giga	G	1 000 000 000·
10 ⁶	mega	M	1 000 000·
10 ³	kilo	k	1 000·
10 ²	hecto	h	100·
10 ¹	deca	da	10·
10 ⁻¹	deci	d	0.1
10 ⁻²	centi	c	0.01
10 ⁻³	milli	m	0.001
10 ⁻⁶	micro	μ	0.000 001
10 ⁻⁹	nano	n	0.000 000 001
10 ⁻¹²	pico	p	0.000 000 000 001
10 ⁻¹⁵	femto	f	0.000 000 000 000 001
10 ⁻¹⁸	atto	a	0.000 000 000 000 000 001

Appendix C: Unit conversion

In order to make recognition easier, the figures have been divided by spaces where appropriate. Spaces have been used, for example, as a thousand marker to the left of the decimal point; to the right of the decimal point, a space divides the digits into groups of three. In some cases a back slash, or /, has been used in place of the word 'per'. The use of an asterisk * indicates an exact number.

<i>Knowing</i>	<i>Multiply by</i>	<i>To get</i>
Acres	0.404 686	hectares
Acres	4 046.856 421	square metres
Acres	4 840.0 *	square yards
Angstroms	0.000 000 1	millimetres
Angstroms	0.000 000 000 1	metres
Angstroms	0.000 10	microns
Angstroms	0.100	millimicrons
Ares	0.010	hectares
Ares	100.0 *	square metres
Ares	0.000 1	square kilometres
Ares	119.599 005	square yards
Astronomical unit (AU)	1.496×10^{11}	metres
Atmospheres - means standard atmospheres unless otherwise stated.		
Atmospheres	1.013 250	bars
Atmospheres	75.999 989	centimetres of mercury
Atmospheres	33.900 579	feet of water (at 4°C)
Atmospheres	29.921 256	inches of mercury (at 0°C)
Atmospheres	1.033 228	kilograms square centimetre
Atmospheres	101.325 0	kilonewtons/sq metre
Atmospheres	101 325.0	pascals
Atmospheres	14.695 949	pounds per square inch
Atmospheres	1.058 108	tons (short) per sq foot
Atmospheres	759.999 892	mm of mercury (at 0°C)
Atmospheres (metric)	1.0	kilograms force/sq cm
Avdp = avoirdupois.		
Bar	0.986 923	atmospheres
Bar	100 000.0 *	newtons per square metre
Bar	1 000 000.0	dynes per square centimetre
Bar	750.061 576	millimetres of mercury
Bar	14.503 774	pounds per square inch
Barn	1.0×10^{-27}	square metres
Barrels (UK)	0.163 6	cubic metres
Barrels (UK)	36.0 *	gallons (UK)
Barrels (UK)	163.659 24	litres
Barrels of oil (US)	0.158 987	cubic metres
Barrels of oil (US)	42.0 *	gallons (US)
Barrels of oil (US)	158.987 3	litres
Barrels (US liquid)	31.5 *	gallons (US)
Baryes	0.000 001	bars
Baryes	1.0	dynes per square centimetre
Blots	10	joules/tesla
Bohr magneton	$9.274 08 \times 10^{-24}$	amperes metre squared
Bohr radius	$5.291 67 \times 10^{-11}$	metres
Btu = British thermal units.		
Btu	251.995 764	calories (gram calories)
Btu	778.169 270	foot-pounds (force)
Btu	1 055.055 863	joules (newton metres)
Btu	0.251 996	kilocalorie
Btu	1.055 058	kilojoules
Btu	0.000 293	kilowatt hours
Btu/cubic foot	8.899 146	kilocalories/cubic metre
Btu/cubic foot/°F	67.066 1	kilojoules/metre ³ Kelvin
Btu/cubic foot	37.258 948	kilojoules/cubic metre
Btu/hour	0.069 998	gram-calories/second
Btu/hour	0.293 071	watts
Btu/hour foot squared	3.154 591	joules/second metre squared
Btu/hour foot squared	0.003 155	kilowatts/metre squared
Btu/hour foot squared °F	5.678 263	joules/second metre ² K
Btu/hour foot squared °F	5.678 263	watts/metre ² K
Btu/pound °C	2.326 0	joules/gram °C
Btu/pound °F	4 186.80	joules/kilogram °C

Appendix C: Unit conversion - *contd*

<i>Knowing</i>	<i>Multiply by</i>	<i>To get</i>
Bushels	0.036 369	cubic metres
Calories - large	1 000.0 *	calories
Calories _{15 degree}	4.185 50	joules (newton metres)
Calories _{IT}	0.003 968 321	British thermal units
Calories _{IT}	0.000 001 163	kilowatt-hours
Calories _{IT}	4.186 80	joules (newton metres)
Calories/gram °C	4 186.80	joules/kilogram °C
Calories/second cm ²	41 868.0	joules/second metre squared
Calories/second cm ²	41.868 0	kilowatts/metre squared
Cals/second cm ² °C	41.868 0	watts/metre ² K
Cals/second cm ² °C	41.868 0	joules/second metre ² K
Candle power (spherical)	12.566 371	lumens
Candles (International)	1.0	lumens (Int)/steradian
Carats - metric	200.0	milligrams
Cental	45.359 238	kilograms
Centares (centiares)	1.0 *	square metres
Centigrade heat unit = Chu		
Centimetres	0.1 *	decimetres
Centimetres	0.032 808	feet
Centimetres	0.393 701	inches
Centimetres	0.000 010	kilometres
Centimetres	0.010 *	metres
Centimetres	10 000.0	microns
Centimetres	10.0	millimetres
Centimetres	10 000 000.0	millimicrons
Centimetres/second	1.968 504	feet/minute
Centimetres/second	0.032 808	feet/second
Centimetres/second	0.036 0	kilometres/hour
Centimetres/second	0.60	metres/minute
Centimetres squared - see square centimetres.		
Centipoises	1.0 *	dyne second/sq centimetre
Centipoises	0.010 *	grams/centimetre second
Centipoises	0.010	poises
Centipoises	1.0 *	meganewtons second/sq metre
Centipoises	0.001 0	pascal-seconds
Centistokes	0.000 001	square metres per second
Centistokes	1.0 *	sq millimetres/second
Centistokes	0.01 *	stokes
Chains	20.116 80	metres
Chains	22.0 *	yards
Chains - engineers	100.0 *	feet
Chains - engineers	30.480	metres
Cheval vapeur	1.0 *	horsepower (metric)
Cheval vapeur	0.735 499	kilowatts
Cheval vapeur	735.499	watts
Chu - centigrade heat unit.		
Chu/hour foot squared	5.678 264	joules/second metre squared
Chu/hour foot squared	0.005 678	kilowatts/metre squared
Chu/pound	1.0	calories/gram
Chu/pound °F	4 186.80	joules/kilogram °C
Coulombs	1.0 *	ampere seconds
Coulombs/second	1.0 *	amperes
Cubic centimetres	0.000 035 315	cubic feet
Cubic centimetres	0.061 023 744	cubic inches
Cubic centimetres	0.000 001	cubic metres
Cubic centimetres	0.000 219 969	gallons UK
Cubic centimetres	0.000 264 172	gallons US (liquid)
Cubic centimetres	0.001 0	litres
Cubic centimetres	0.000 227 021	US gallons (dry)
Cubic decimetres	1.0	litres
Cubic feet	28 316.846 59	cubic centimetres
Cubic feet	1728.0	cubic inches
Cubic feet	0.028 316 847	cubic metres
Cubic feet	6.228 835	gallons UK
Cubic feet	28.316 866	litres

Appendix C: Unit conversion - *contd*

<i>Knowing</i>	<i>Multiply by</i>	<i>To get</i>
Cubic feet/minute	1.0	cumins
Cubic feet/minute	0.124 675	gallons US/second
Cubic feet/minute	0.471 947	litres/second
Cubic feet/pound	0.062 428	cubic metres/kilogram
Cubic feet/second	1.0	cusecs
Cubic feet/second	0.028 317	cubic metres/second
Cubic feet/second	28.316 877	litres/second
Cubic inches	16.387 064	cubic centimetres
Cubic inches	0.000 578 704	cubic feet
Cubic inches	0.000 016 387	cubic metres
Cubic inches	16 387.064 00	cubic millimetres
Cubic inches	0.003 604 650	gallons (UK)
Cubic inches	0.016 317	litres
Cubic inches	0.576 744	ounces (fluid UK)
Cubic metres	1 000 000.0	cubic centimetres
Cubic metres	61 023.744 09	cubic inches
Cubic metres	35.314 666	cubic feet
Cubic metres	1.307 950	cubic yards
Cubic metres	10 000.0	decilitres
Cubic metres	219.969 248	gallons (UK)
Cubic metres	264.172 05	gallons US (liquid)
Cubic metres	10.0	hectolitres
Cubic metres	1 000.0 *	litres
Cubic yards	0.764 555	cubic metres
Cubits	1.5 *	feet
Cumins	1.0	cubic feet/minute
Curie	3.70×10^{10}	becquerel
Cusecs	1.0	cubic feet/second
Cycles per second	1	hertz
Deciare	10.0	square metres
Decilitres	0.000 1	cubic metres
Decilitres	0.1	litres
Decimetres	10	centimetres
Decimetres	3.937 008	inches
Decimetres	0.1	metres
Decimetres	100	millimetres
Degrees (of angle)	0.017 453	radians
Dekalitres	10.0 *	litres
Dekametres	10.0 *	metres
Denier (international)	1.111×10^{-7}	kilograms per metre
Drachm (UK)	3.887 93	grams
Drachm (fluid UK)	3 551.63	cubic millimetres
Dram (avdp)	1.771 845	grams
Dram (avdp)	0.062 50	ounces
Dram (fluid US)	0.003 697	kilograms
Dram (US)	0.003 888	kilograms
Dynes	0.001 020	grams
Dynes	0.000 000 1	joules/centimetre
Dynes	0.000 001 02	kilograms-force
Dynes	0.000 01 *	newtons (joules/metre)
Dynes	0.000 072 330	poundals
Dynes	0.000 002 248	pounds-force
Dyne centimetre	1.0×10^{-7}	joules (newton metres)
Dynes/centimetre	0.001 0	newtons per metre
Dynes/square centimetre	0.10	newtons/square metre
Dynes/square centimetre	0.000 014 504	pounds force/square inch
Dynes/square centimetre	0.000 014 504	pounds per square inch
Dynes/square centimetre	0.002 088	pounds per square foot
Electron volt	$1.602 19 \times 10^{19}$	joules
Ell	45.0 *	inches
Ergs	0.000 000 1 *	joules (newton metres)
Fathoms	6.0 *	feet
Fathoms	1.828 80	metres

Appendix C: Unit conversion - *contd*

<i>Knowing</i>	<i>Multiply by</i>	<i>To get</i>
Feet	12.0 *	inches
Feet	0.304 80 *	metres
Feet	0.000 304 80 *	kilometres
Feet cubed - see cubic feet		
Feet of water (17°C)	0.029 460	atmospheres
Feet of water (17°C)	0.881 507	inches of mercury
Feet of water (17°C)	0.030 440	kilograms/square centimetre
Feet of water (17°C)	2 985.126 553	newtons per square metre
Feet of water (17°C)	0.432 955	pounds/square inch
Feet per minute	0.508 0	centimetres per second
Feet per minute	0.005 08	metres per second
Feet per minute	0.304 80 *	metres per minute
Feet per second	30.480	centimetres per second
Feet per second	1.097 280	kilometres per hour
Feet per second	18.880	metres per minute
Feet squared per second	0.092 903	metres squared per second
Fluid ounces - see ounces (fluid).		
Foot cubed - see cubic feet.		
Foot-candles	1.0 *	lumens/square foot
Foot-candles	10.763 910	lux
Foot-lambert	3.426 26	candelas per square metre
Foot poundals	0.042 140 160	joules
Foot pounds	0.001 286	British thermal units
Foot pounds	0.323 836	gram-calories
Foot pounds	32.174 049	foot poundals
Foot pounds	5.050 × 10 ⁻⁷	horsepower-hour (UK)
Foot pounds	1.355 818	joules
Foot pounds	0.138 255	kilogram (force) metres
Foot pounds per second	1.355 818	watts
Foot pounds per minute	0.001 286	Btus/minute
Foot pounds per minute	3.030 3 × 10 ⁻⁵	horsepower (UK)
Foot pounds per minute	0.000 324	kilogram calories/minute
Foot pounds per minute	2.259 7 × 10 ⁻⁵	kilowatts
Furlongs	0.201 168	kilometres
Furlongs	201.168 0	metres
Furlongs	220.0 *	yards
Galileo	1.0	centimetres/second squared
Galileo	0.01	metres per second squared
Gallons UK	1.200 950	gallons US (liquid)
Gallons UK	4 546.090	cubic centimetres
Gallons UK	0.160 544	cubic feet
Gallons UK	277.419 433	cubic inches
Gallons UK	0.004 546 090	cubic metres
Gallons UK	4.546 090 *	litres
Gallons US means gallons US - liquid, unless otherwise stated.		
Gallons US - dry	0.004 405	cubic metres
Gallons US	3 785.411 785	cubic centimetres
Gallons US	231.0 *	cubic inches
Gallons US	0.133 681	cubic feet
Gallons US	0.832 674	gallons UK
Gallons US	3.785 411	litres
Gallons US (of water)	8.335 882	pounds of water
Gallons US per minute	0.002 228	cubic feet/second
Gallons US per minute	3.785 415	litres/minute
Gallons US per minute	0.063 090	litres/second
Gallons US per minute	0.003 782	cubic metres/minute
Gallons US per minute	0.227 125	cubic metres/hour
Gallons US per square foot	40.743	litres per square metre
Gauge	0.254	microns
Gauss	0.000 1	tesla
Gilbert	0.795 8	ampere
Gill - US	118.294 118	cubic centimetres
Grade	0.015 708	radian
Grains	0.064 799	grams

Appendix C: Unit conversion - *contd*

<i>Knowing</i>	<i>Multiply by</i>	<i>To get</i>
Grains	64.798 9	milligrams
Grains	0.002 286	ounces (avdp)
Gram calories - see calories.		
Grams	0.001 0	kilograms
Grams	0.035 274	ounces (avdp)
Grams	0.002 205	pounds (avdp)
Grams per centimetre	0.005 600	pounds per inch
Grams per denier	0.088 26	newtons per tex
Grams per cubic centimetre	1 000.0	kilograms/cubic metre
Grams per cubic centimetre	0.578 038	ounces per cubic inch
Grams per cubic centimetre	62.427 960	pounds per cubic foot
Grams per cubic centimetre	0.036 127	pounds per cubic inch
Grams (force) centimetres	1.0×10^{-5}	kgf metres
Grams (force) centimetres	$9.806 65 \times 10^{-5}$	newton metres
Grams (force)/sq centimetre	10.0	kgf per square metre
Grams (force)/sq centimetre	0.014 223	pounds per square inch
Grams (force)/sq centimetre	2.048 161	pounds per square foot
Hectares	2.471 054	acres
Hectares	100.0	ares
Hectares	10 000.0	square metres
Hectares	0.010	square kilometres
Hectolitres	0.10	cubic metres
Hectolitres	1 000.0	decilitres
Hectolitres	21 996.925	gallons (UK)
Hectolitres	100.0	litres
Hectometres	100.0	metres
Horsepower (550 ft lbf/s)	745.700	watts
Horsepower (boiler)	981.0	watts
Horsepower (electric)	746.0 *	watts
Horsepower (UK)	42.407 226	Btu/minute
Horsepower (UK)	550.0 *	foot-pounds per second
Horsepower (UK)	0.745 700	kilowatts
Horsepower hour (UK)	0.745 700	kilowatts hour
Horsepower hour (UK)	2.684 52	megajoules
Horsepower (metric)	0.735 499	kilowatts
Horsepower (metric)	75.0 *	kilogram metres/second
Hundredweight (UK or long)	50.802 346	kilograms
Hundredweight (short or US)	45.359 238	kilograms
Imperial gallons - see gallons UK.		
Inches	0.025 40 *	metres
Inches	25.40	millimetres
Inches	1 000.0 *	mils
Inches cubed - see cubic inches.		
Inches of mercury (0°C)	0.033 42	atmospheres
Inches of mercury (0°C)	0.034 53	kilograms/sq centimetre
Inches of mercury (0°C)	3 386.39	newtons per square metre
Inches of mercury (0°C)	0.491 154	pounds per square inch
Inches of water (4°C)	0.002 458	atmospheres
Inches of water (4°C)	0.073 552	inches of mercury (°C)
Inches of water (4°C)	0.002 540	kgf/square centimetre
Inches of water (4°C)	0.036 125	pounds per square inch
Inches of water (4°C)	249.073 066	newtons per square metre
Inches per minute	0.423 333	millimetres per second
Inches ounces	0.007 062	newton metres
Inches ounces	0.062 50	inch pounds
Inch pounds	16.0	inch ounces
Inch pounds	0.112 985	newton metres
Inches squared - see square inches.		
International (int) nautical miles - see miles - nautical.		
Irons	0.529 167	millimetres
Joules (newton metres)	0.000 947 81	Btu
Joules (newton metres)	0.238 846	calories IT

Appendix C: Unit conversion - *contd*

<i>Knowing</i>	<i>Multiply by</i>	<i>To get</i>
Joules (newton metres)	1.0×10^7	ergs
Joules (newton metres)	0.737 560	foot-pounds
Joules (newton metres)	1.0 *	newton metres
Joules (newton metres)	1.0	watt-second
Joules per centimetre	10 197.162 13	grams
Joules per centimetre	100.0	newtons (joules/metre)
Joules per centimetre	22.480 894	pounds
Joules/second	1.0	watts
Joules/second metre ² K	1.0	watts/metre squared K
Kgf = kilogram force.		
Kgf centimetres	0.072 330	foot-pounds
Kgf centimetres	0.010	kgf metres
Kgf centimetres	0.098 067	newton metres
Kgf metres	7.233 014	foot-pounds
Kgf metres	100.0	kgf centimetres
Kgf metres	9.806 650	newton metres
Kgf/metres second squared	1.0 *	mPa seconds/sq metre
Kgf seconds/square metre	9.806 650	pascal-seconds
Kgf/sq centimetre	28.959 021	inches of mercury
Kgf/sq centimetre	0.967 841	atmospheres
Kgf/sq centimetre	1.0 *	atmospheres (metric)
Kgf/sq centimetre	98 066.50	pascals
Kgf/sq centimetre	32.810 368	feet of water (4°C)
Kgf/sq centimetre	98.066 50	kilopascals
Kgf/sq centimetre	14.223 343	pounds force/square inch
Kgf/square metre	9.806 650	pascals
Kgf/square metre	0.204 816	pounds force/square foot
Kgf/square millimetre	9.806 65	megapascals
Kgf/square millimetre	0.711 167	tons (US) force/sq inch
Kgf/square millimetre	1.0×10^6	kgf/square metre
Kilobar	100.0	mega pascals/m ²
Kilocalories	1 000.0	calories (gram calories)
Kilocalories	3.968 320	British thermal units
Kilocalories	4 186.80	joules
Kilocalories	4.186 80	kilojoules
Kilocalories/hours	0.001 163	kilowatts
Kilocalories/gram °C	4 186.80	joules/kilogram °C
Kilocalories/hours foot ²	12.518 428	joules/second metre squared
Kilocalories/hours foot ²	0.012 518	kilowatts/metre squared
Kilocalories/hours metre ²	1.163 0	joules/second metre squared
Kilogram calorie - see kilocalories.		
Kilograms	1 000.0	grams
Kilograms	2.204 62	pounds
Kilograms	0.001 0	tonnes (metric)
Kilograms	0.000 984 207	tons (long)
Kilograms	980 665.0	dynes
Kilograms	9.806 650	newtons (joules/metre)
Kilograms	70.931 6	poundals
Kilograms	2.204 623	pounds-force
Kilograms/centimetre	9.806 65	newtons per centimetre
Kilograms/centimetre	5.599 741	pounds per inch
Kilograms/cubic metre	0.001 0	grams/cubic centimetre
Kilograms/cubic metre	0.062 428	pounds per cubic foot
Kilograms/metre	9.806 65	newtons per metre
Kilograms/metre	0.671 969	pounds per foot
Kilograms/metre	2.015 907	pounds per yard
Kilograms/metre	0.000 336	tons (US) force per foot
Kilograms-force - see Kgf.		
Kilograms/cubic metre	$3.612 7 \times 10^{-5}$	pounds per cubic inch
Kilograms/cubic metre	1.685 553	pounds per cubic yard
Kilograms/litre	1.0	megagrams per cubic metre
Kilograms/litre	8.344 5	pounds per gallon (US)
Kilograms/sq centimetre	14.223 343	pounds per square inch
Kilograms/sq metre	0.001 422	pounds per square inch

Appendix C: Unit conversion - *contd*

<i>Knowing</i>	<i>Multiply by</i>	<i>To get</i>
Kilojoules	0.947 817	British thermal units
Kilojoules	1 000.0	joules (newton metres)
Kilometres	100 000.0	centimetres
Kilometres	3 280.839 895	feet
Kilometres	1 000 000.0	millimetres
Kilometres	1 000.0	metres
Kilometres	0.621 371	miles
Kilometres per hour	0.911 344	feet per second
Kilometres per hour	0.277 778	metres per second
Kilometres per hour	0.621 371	miles per hour
Kiloponds (kp or kps)	1.0	kilograms (kgf)
Kilopounds (kips)	1 000.0	pounds
Kilowatt hours	3 412.141 600	British thermal units
Kilowatt hours	859 845.227 9	calories
Kilowatt hours	1.341 022	horsepower hours (UK)
Kilowatt hours	3 600 000.0	joules
Kilowatt hours	859.845 228	kilocalories
Kilowatt hours	3.600	megajoules
Kilowatts	56.869 027	Btu/minute
Kilowatts	737.562 150	foot-pounds per second
Kilowatts	1.341 022	horsepower (UK)
Kilowatts	14.330 754	kilocalories/minute
Kilowatts/metre squared	1 000.0	joules/second metre squared
kips = kilopounds = 1,000 pounds.		
kips	4 448.221 659	newtons
kips/square inch	1 000.0	pounds per square inch
Knots (international)	1.852 0 *	kilometres per hour
Knots (international)	1.0 *	miles (nautical)/hour
Knots (international)	0.514 444	metres per second
Knots (UK)	1.853 184	kilometres per hour
kp = kps kiloponds = kgf		
kp/square centimetre	1.0	kgf/square centimetre
Lambert	0.318 310	candles/sq centimetre
lbf = pounds force		
League	3.0 *	miles
League (nautical Int)	5.556 0	kilometres
League (nautical UK)	18 240.0 *	feet
Light year	9.460 55 × 10 ¹⁵	metres
Links (US survey)	0.660 *	feet
Links (US survey)	0.201 168	metres
Litre atmospheres	101.325 0 *	joules (newton metres)
Litres	1.0	cubic decimetres
Litres	0.035 315	cubic feet
Litres	61.022 744	cubic inches
Litres	0.001 0	cubic metres
Litres	0.219 969	gallons (UK)
Litres	0.264 172	gallons (US liquid)
Litres	0.010	hectolitres
Litres	1.759 753	pints (UK)
Litres	2.113 376	pints (US liquid)
Litres	1.056 688	quarts (US liquid)
Litres per minute	0.035 315	cubic feet/minute
Litres per minute	0.004 403	gallons (US) per second
Long tons. See tons (long).		
Lumens	0.001 471	watts
Lumens per square foot	10.763 910	lux
Lusecs	133.332	micronewtons-metre/second
Lux	0.092 9	foot-candles
Lux	1.0 *	lumens/square metre
Maxwell	0.000 000 01	weber
Maxwell/sq centimetre	1.0 *	gausses
Megabars	100.0	giganewtons/square metre
Megapascals	10.0 × 10 ⁶	bar
Megapascals	1.0	meganewtons/square metre

Appendix C: Unit conversion - *contd*

<i>Knowing</i>	<i>Multiply by</i>	<i>To get</i>
Megapascals	145.038 736	pounds per square inch
Metres	100.0	centimetres
Metres	10.0	decimetres
Metres	3.280 840	feet
Metres	0.001	kilometres
Metres	1 000.0	millimetres
Metres	1.093 613	yards
Metres per second	196.850 394	feet per minute
Metres per second	3.280 84	feet per second
Metres per second	3.60	kilometres per hour
Metres per second	2.236 94	miles per hour
Metres per minute	1.666 667	centimetres per second
Metres per minute	3.280 840	feet per minute
Metres per minute	0.037 28	miles per hour
Metric horsepower - see horsepower.		
Metric tonnes	1 000.0	kilograms
Metric tonnes	2 204.622 60	pounds
Metric tonnes	0.984 207	tons (long)
Metric tonnes	1.102 311	tons (short)
Metric tonnes force	1 000.0	kgf
Metric tonnes force/m ²	9.806 650	kilopascals
Metric tonnes force/m ²	1.422 334	pounds force/square inch
Metric tonnes force/m ²	0.102 408	tons (US) force/square foot
Metric tonnes/cubic metre	1.0	megagrams/cubic metre
Metric tonnes/cubic metre	0.843	tons (US)/cubic yard
Microbar	0.10	newtons per square metre
Microinch	0.000 001	inches
Micrometres of mercury	0.133 322	newtons per square metre
Microns	3.937	gauge
Microns	10 000.0 *	Angstroms
Microns	1.0 × 10 ⁻⁶	metres
Microns	0.001	millimetres
Microns	1 000.0	millimicrons
Mil - see mils.		
Miles	5 280.0 *	feet
Miles	1.609 344	kilometres
Miles	1 760.0 *	yards
Miles per hour	44.704 0	centimetres per second
Miles per hour	88.0	feet per minute
Miles per hour	1.466 667	feet per second
Miles per hour	1.609 344	kilometres per hour
Miles per hour	26.822 40	metres per minute
Miles per hour	0.447 04	metres per second
Miles per minute	2 682.240	centimetres per second
Miles - nautical (mi n), see Miles - n.		
Miles - n (International)	1.852 0 *	kilometres
Miles - n (telegraphic)	6087.0	feet
Miles - n (telegraphic)	1.855 32	kilometres
Miles - n (UK)	1.853 184	kilometres
Miles - n (UK)	6 080.0	feet
Millibar	100.0	newtons per square metre
Milligalileo	0.001 0	galileo
Millimetres	10 000 000.0	Angstroms
Millimetres	0.10	centimetres
Millimetres	0.010	decimetres
Millimetres	0.003 281	feet
Millimetres	0.039 370	inches
Millimetres	0.000 001	kilometres
Millimetres	0.001 0	metres
Millimetres	1 000.0	microns
Millimetres	1 000 000.0	millimicrons
Millimetres	39.370 079	mils
Millimetres of mercury (0°C)	133.322 387	newtons per square metre
Millimetres of water (0°C)	9.804 684	newtons per square metre
Millimicrons	0.001 0	microns
Millimicrons	10.0	Angstroms

Appendix C: Unit conversion - *contd*

<i>Knowing</i>	<i>Multiply by</i>	<i>To get</i>
Millitorr	0.133 322	newtons per square metre
Mils	0.002 54	centimetres
Mils	0.001	inches
Mils	0.000 025 4	metres
Mils	25.4	microns
Mils	0.025 4	millimetres
Minims (UK)	59.193 905	cubic millimetres
Minutes (angular)	0.000 290 9	radians
Myriagrams	10.0	kilograms
Myriametres (US)	10.0 *	kilometres
Nautical miles (n mi) - see Miles - n.		
New candles	60.0 *	candles/square centimetre
Newton centimetres	0.007 376	foot-pounds
Newton centimetres	0.101 972	kgf metres
Newton centimetres	0.010	newton metres
Newton metres	0.737 562	foot-pounds
Newton metres	10.197 162	kgf metres
Newton metres	100.0	newton centimetres
Newtons (joules/metre)	100 000.0	dynes
Newtons (joules/metre)	0.101 972	kilograms
Newtons (joules/metre)	7.233 014	poundals
Newtons (joules/metre)	0.224 809	pounds
Newtons per square metre	0.000 009 869	atmospheres
Newtons per square metre	1.0 *	pascals
Newtons per square metre	10.0 *	dynes/sq centimetre
Newtons per square metre	0.000 010 972	kilograms/sq centimetre
Newtons per square metre	0.020 88	pounds per square foot
Newtons per square metre	0.000 145 038	pounds per square inch
Nits	1	candelas per square metre
Oersteds	79.58	amperes per metre
Ounce-force inches	7 061.55	micronewton metres
Ounces (avdp)	16.0 *	drams (avdp)
Ounces (avdp)	28.349 523	grams
Ounces (avdp)	0.028 350	kilograms
Ounces (avdp)	0.278 014	newtons (joules/metre)
Ounces (avdp)	0.062 50	pounds (avdp)
Ounces (fluid UK)	28.413 063	cubic centimetres
Ounces (fluid UK)	0.028 414	litres
Ounces (fluid US)	29.573 530	cubic centimetres
Ounces (fluid US)	1.804 688	cubic inches
Ounces per cubic inch	1.733	grams per cubic centimetre
Ounces (apothecary/troy)	8.0 *	drams (apothecary/troy)
Ounces (apothecary/troy)	480.0 *	grains
Ounces (apothecary/troy)	31.103 5	grams
Ounces (apothecary/troy)	20.0 *	pennyweights (troy)
Ounces (apothecary/troy)	0.083 333	pounds (troy)
Paces	2.5 *	feet
Pascals	1.0	newtons per square metre
Pascal-seconds	10.0	dyne-seconds/sq centimetre
Pascal-seconds	0.102	kgf seconds/sq metre
Pascal-seconds	1.0	newtons-seconds/sq metre
Pascal-seconds	10.0	poise
Pascal-seconds	0.020 88	lbf seconds/square foot
Pascal-seconds	0.000 145	lbf seconds/square inch
Parsecs	$3.085 7 \times 10^{13}$	kilometres
Pecks (UK)	9.092 180	litres
Pecks (US)	8.809 769	litres
Pennyweight	1.555 17	grams
Pennyweights (troy)	24.0 *	grains
Perch (rod or pole)	5.029 20	metres
Perch (rod or pole)	5.5 *	yards
Pferde-stärke (metric horsepower) - see horsepower.		

Appendix C: Unit conversion - *contd*

<i>Knowing</i>	<i>Multiply by</i>	<i>To get</i>
Phots	1.0	lumens/sq centimetre
Pints (UK)	0.568 261	litres
Pints (UK)	20.0 *	ounces (fluid UK)
Pints (UK)	1.200 950	pints (US liquid)
Pints (US dry)	0.550 610	litres
Pints (US liquid)	0.473 2	litres
Pints (US liquid)	16.0 *	ounces (fluid US)
Pints (US liquid)	0.832 674	pints (UK)
Pole (rod or perch)	5.029 20	metres
Pole (rod or perch)	5.5 *	yards
Poncelets	100.0	kgf metres/second
Poncelets	980.665	watts
Poise	100.0	centipoises
Poise	1.0 *	dyne second/sq centimetre
Poise	1.0 *	gram/centimetre second
Poise	0.102	kgf seconds/sq metre
Poise	0.000 015	lbf seconds/square inch
Poise	0.10	pascal-seconds
Poise	0.067 197	pounds/foot second
Pound (lb) - see pounds.		
Poundals	13 825.495 57	dynes
Poundals	0.014 098	kilograms-force
Poundals	0.138 255	newtons (joules/metre)
Poundals	0.031 081	pounds-force
Pounds (avdp)	7 000.0 *	grains
Pounds (avdp)	453.592 375	grams
Pounds (avdp)	0.453 592 375	kilograms
Pounds (avdp)	16.0 *	ounces (avdp)
Pounds (avdp)	32.174 049	poundals
Pounds (avdp)	0.000 446 429	tons (long)
Pounds (apothecary/troy)	5 760.0 *	grains
Pounds (apothecary/troy)	0.373 242	kilograms
Pounds-feet	0.138 3	metres-kilogram
Pounds force	0.453 592	kilograms-force
Pounds force	4.448 22	newtons (joules/metre)
Pounds force	32.174	poundals
Pounds force foot	1.355 82	newton metres
Pounds force inch	0.112 985	newtons/metre
Pounds force per square inch. See pounds per square inch (psi).		
Pounds of water	0.016 02	cubic feet
Pounds of water	0.276 8	cubic inches
Pounds of water	0.119 8	gallons US
Pounds of water/minute (17°C)	0.000 267	cubic feet/second
Pounds of water/minute (17°C)	0.119 985	gallons (US liquid)/minute
Pounds per cubic foot	0.016 019	gram per cubic centimetre
Pounds per cubic foot	16.018 463	kilograms per cubic metre
Pounds per cubic foot	0.000 598 704	pounds per cubic inch
Pounds per cubic inch	27.679 904 98	grams per cubic centimetre
Pounds per cubic inch	27 679.9	kilograms per cubic metre
Pounds per cubic inch	1728.0	pounds per cubic foot
Pounds per square inch	0.068 046	atmospheres
Pounds per square inch	2.309 704	feet of water (17°C)
Pounds per square inch	2.036 021	inches of mercury (0°C)
Pounds per square inch	703.069 59	kilograms per square metre
Pounds per square inch	0.070 306 979	kilograms/sq centimetre
Pounds per square inch	0.006 894 76	megapascals
Pounds per square inch	6 894.757 361	newtons per square metre
Pounds per inch	178.579 675	grams per centimetre
Quarts (UK)	1.136 533	litres
Quarts (US dry)	1.101 122	litres
Quarts (US liquid)	946.352 946	cubic centimetres
Quarts (US liquid)	57.750 000	cubic inches
Quarts (US liquid)	0.946 352	litres
Quarters (UK)	12.700 6	kilograms
Quarters (UK)	28.0	pounds

Appendix C: Unit conversion - *contd*

<i>Knowing</i>	<i>Multiply by</i>	<i>To get</i>
Quintals (metric)	100.0 *	kilograms
Quintals (UK or long)	112.0 *	pounds
Quintals (US or short)	100.0 *	pounds
Rad	100	gray
Radians	57.295 780	degrees
Relative density - see specific gravity.		
Rods (perch or pole)	5.029 20	metres
Rods (perch or pole)	5.50 *	yards
Roentgens	0.000 258	coulombs per kilogram
Roods	0.250	acres
Roods	101 171.411 05	square metres
Second (angle)	0.000 004 848	radian
Section	0.000 002 590	square metre
Scruples (UK)	1.295 98	grams
Short tons - see tons (short).		
Slugs	14.593 9	kilograms
Small calories - see calories.		
Specific gravity	62.427 960	pounds per cubic foot
Specific gravity	16.387 064	grams per cubic inch
Specific gravity	0.578 038	ounces per cubic inch
Specific gravity	0.036 127	pounds per cubic inch
Square centimetres	197 352.524 1	circular mils
Square centimetres	127.323 955	circular millimetres
Square centimetres	0.010	square decimetres
Square centimetres	0.001 076	square feet
Square centimetres	0.155 000	square inches
Square centimetres	0.000 10	square metres
Square centimetres	100.0	square millimetres
Square chains	404.685 642	square metres
Square decimetres	100.0	square centimetres
Square decimetres	10 000.0	square millimetres
Square decimetres	0.010	square metres
Square feet	929.030 400	square centimetres
Square feet	0.092 903	square metres
Square feet (US survey)	1.000 004	square feet
Square inches	6.451 60	square centimetres
Square inches	645.160	square millimetres
Square kilometres	10 000.0	ares
Square kilometres	100.0	hectares
Square kilometres	1 000 000.0	square metres
Square kilometres	0.386 102	square miles
Square metres	0.010	ares
Square metres	0.000 10	hectares
Square metres	10 000.0	square centimetres
Square metres	100.0	square decimetres
Square metres	0.000 001	square kilometres
Square metres	1 000 000.0	square millimetres
Square metres	10.763 910	square feet
Square metres	1 550.003 100	square inches
Square metres	1.195 990	square yards
Square miles	2.589 988	square kilometres
Square millimetres	0.010	square centimetres
Square millimetres	0.000 1	square decimetres
square millimetres	0.001 550	square inches
Square millimetres	0.000 001	square metres
Square yards	8 361.273 60	square centimetres
Square yards	0.836 127	square metres
Stere	1.0 *	cubic metres
Stilbs	1.0	candle/sq centimetre
Stokes	1.0 *	square centimetre/second
Stones	6.350 293	kilograms
Stones	14.0 *	pounds (avdp)

Appendix C: Unit conversion - *contd*

<i>Knowing</i>	<i>Multiply by</i>	<i>To get</i>
Teslas	10 000.0 *	gausses
Teslas	1.0 *	webers/sq metre
Tex	1.0	grams per metre
Tex	0.000 001	kilogram per metre
Thermies	4.185 50	megajoules
Therms	100 000.0	Btu
Therms	105.506	megajoules
Thou. See mils.		
Thousandths of an inch. See mils.		
Tons (imperial) = tons (long).		
Tons (long)	1 016.046 919	kilograms
Tons (long)	1.016 047	metric tonnes
Tons (long)	2 240.0 *	pounds (avdp)
Tons (long)	1.120	tons (short)
Tons (long) force	2 240.0	pounds force
Tons (long) force/sq inch	152.422 81	atmospheres
Tons (long) force/sq inch	1.574 876	kgf/sq millimetre
Tons (long) force/sq inch	1.544 43 × 10 ⁷	pascals
Tons (refrigeration)	3 516.90 *	watts
Tons (UK). See tons (long).		
Tonnes (metric). See metric tonnes.		
Tons (metric). See metric tonnes.		
Tons short. See tons (US).		
Tons (US)	0.907 185	metric tonnes
Tons (US)	2 000.0 *	pounds (avdp)
Tons (US)	0.892 857	tons (long)
Tons (US) force	2 000.0	pounds force
Tons (US) force/foot	2 976.328	kilograms force/metre
Tons (US) force/yard	992.109	kilograms force/metre
Tons (US) force/sq inch	136.091 929	atmospheres
Tons (US) force/sq inch	1.406 139	kgf/sq millimetre
Tons (US) force/sq inch	13.789 514	megapascals
Torr	0.001 316	atmospheres
Torr	1 000.0	mm mercury (0°C)
Torr	133.322 368	newtons per square metre
US gallons - see gallons US.		
Unit poles	0.000 000 126	weber
Watt-hours	3.412 142	British thermal units
Watt-hours	859.845	gram-calories
Watt-hours	0.001 341	horsepower-hours (UK)
Watt-hours	367.097 837	kilogram (force) metres
Watts	3.412 142	British thermal units/hour
Watts	10 000 000.0	ergs per second
Watts	44.253 729	foot-pounds per minute
Watts	0.001 341	horsepower (UK)
Watts	1.0 *	joules per second
Watts	0.014 331	kilogram-calories/minute
Watts/centimetre squared	3 169.983 276	Btu/hour foot ²
Watts/metre squared	1.0	joules/second metre ²
Watts/metre squared	0.001 0	kilowatts/metre ²
Yards	3.0 *	feet
Yards	91.440 0	centimetres
Yards	0.914 40	metres

Appendix D: Temperature Conversion

In the temperature conversion table the centre column contains the numbers that you wish to convert. If you have a temperature in °C that you would like in °F then, read from the centre to the right. For example, if you like to convert 200°C into °F, then find 200 in the centre column and then look immediately right: you should see 392°F. Check this by dividing by 5, multiplying by 9 and adding on 32.

$$\frac{200 \times 9}{5} = 360$$

Then 360 + 32 = 392 (or 200 × 1.8 then + 32).

To go from °F to °C then enter the figure you have in the centre column and look immediately left. 200°F becomes 93°C. Check this by taking away 32 from 200, then dividing by 9 and then multiplying by 5.

$$200 - 32 = 168.$$

$$\text{Then } \frac{168 \times 5}{9} = 93 \text{ (or } 168 \times 0.56)$$

TEMPERATURE CONVERSION TABLE

<i>Centigrade</i>	<i>Starting Value</i>	<i>Fahrenheit</i>
-18	0	32
-12	10	50
-7	20	68
-1	30	86
4	40	104
10	50	122
16	60	140
21	70	158
27	80	176
32	90	194
38	100	212
43	110	230
49	120	248
54	130	266
60	140	284
66	150	302
71	160	320
77	170	338
82	180	356
88	190	374
93	200	392
99	210	410
104	220	428
110	230	446
116	240	464
121	250	482
127	260	500
132	270	518
138	280	536
143	290	554

<i>Centigrade</i>	<i>Starting Value</i>	<i>Fahrenheit</i>
149	300	572
154	310	590
160	320	608
166	330	626
171	340	644
177	350	662
182	360	680
188	370	698
193	380	716
199	390	734
204	400	752
210	410	770
216	420	788
221	430	806
227	440	824
232	450	842
238	460	860
243	470	878
249	480	896
254	490	914
260	500	932
266	510	950
271	520	968
277	530	986
282	540	1004
288	550	1022
293	560	1040
299	570	1058
304	580	1076
310	590	1094
316	600	1112
321	610	1130
327	620	1148
332	630	1166
338	640	1184
343	650	1202
349	660	1220
354	670	1238
360	690	1256
366	690	1274
371	700	1292
377	710	1310
382	720	1328
388	730	1346
393	740	1364
399	750	1382
404	760	1400
410	770	1418
416	780	1436
421	790	1454

Appendix E: Relative Atomic Masses (Atomic Weights)

<i>Element</i>	<i>Symbol</i>	<i>Relative atomic mass</i>
Aluminium	Al	26.98
Antimony	Sb	121.8
Arsenic	As	74.92
Barium	Ba	137.3
Bismuth	Bi	209.0
Boron	B	10.81
Bromine	Br	79.90
Cadmium	Cd	112.4
Calcium	Ca	40.08
Carbon	C	12.01
Chlorine	Cl	35.45
Chromium	Cr	52.00
Cobalt	Co	58.93
Copper	Cu	63.55
Fluorine	F	19.00
Gold	Au	197.0
Hydrogen	H	1.008
Iodine	I	126.9
Iron	Fe	55.85
Lead	Pb	207.2
Lithium	Li	6.941
Magnesium	Mg	24.31
Manganese	Mn	54.94
Mercury	Hg	200.6
Molybdenum	Mo	95.94
Nickel	Ni	58.71
Nitrogen	N	14.01
Osmium	Os	190.2
Oxygen	O	15.99
Palladium	Pd	106.4
Phosphorus	P	30.97
Platinum	Pt	195.1
Potassium	K	39.10
Rhodium	Rh	102.9
Silicon	Si	28.09
Silver	Ag	107.9
Sodium	Na	22.99
Sulphur	S	32.06
Tin	Sn	118.7
Titanium	Ti	47.90
Tungsten	W	183.9
Vanadium	V	50.94
Zinc	Zn	65.37

Appendix F: The Greek Alphabet

alpha	α	A	nu	ν	N
beta	β	B	xi	ξ	Ξ
gamma	γ	Γ	omicron	o	O
delta	δ	Δ	pi	π	Π
epsilon	ϵ	E	rho	ρ	P
zeta	ζ	Z	sigma	σ	Σ
eta	η	H	tau	τ	T
theta	θ	Θ	upsilon	ν	Ψ
iota	ι	I	phi	ϕ	Φ
kappa	κ	K	chi	χ	X
lambda	λ	Λ	psi	ψ	Ψ
mu	μ	M	omega	ω	Ω