



The World's No. 1  
Trade Fair for Plastics  
and Rubber

## Group 1 Raw materials, auxiliaries

## Group 2 Plastics Products and processing

## Group 3 Machinery and equipment for the plastics and rubber industries

## Group 4 Services for the plastics and rubber industrie

Düsseldorf  
16/10–23/10/19

### 1

#### Raw materials, auxiliaries

##### Thermoplastics

- 1.1.1 Acetal homo and copolymers (POM)
- 1.1.2 Acetal polymerblends
- 1.1.3 Acrylic glass (s. PMMA)
- 1.1.4 Acrylonitrile/butadiene/styrene polymerblends
- 1.1.5 Acrylonitrile/butadiene/styrene copolymers
- 1.1.6 Acrylonitrile/styrene/acrylic ester copolymerblends
- 1.1.7 Acrylonitrile/styrene/acrylic ester copolymers (ASA)
- 1.1.8 Aromatic polyesters
- 1.1.9 Barrier plastics
- Bioplastics*
- 1.1.10.1 Bioplastics, biobased
- 1.1.10.2 Bioplastics, biologically degradable
- 1.1.10.3 Bio-Polyamides
- 1.1.10.4 Polyethylene terephthalate, biobased (Bio-PET)
- 1.1.10.5 Polyethylene furanoate (PEF)
- 1.1.10.6 Polyethylene, biobased (Bio-PE)
- 1.1.10.7 PLA (polylactic acid, Polymilchsäure)
- 1.1.10.8 PHA (Polyhydroxyalkanoate)
- 1.1.10.9 Polybutylene succinate (PBS)
- 1.1.10.10 Polybutyrate (PBAT)
- 1.1.10.11 Polybutylene succinate-co-adipate (PBSA)
- 1.1.10.12 Polyesters
- 1.1.10.13 Bioplastics, cellulose based
- 1.1.10.14 Bioplastics, starch based
- 1.1.10.15 Bioplastics, lignin based
- 1.1.10.16 Bioplastics based on proteins
- 1.1.10.17 Compounds/Blends
- 1.1.10.18 Compounds, natural fiber reinforced
- 1.1.10.19 Wood Plastic Composites (WPC)
- 1.1.10.20 Bioplastics, Certifications/Standards
- 1.1.11 Cellulose acetate, secondary (CA)
- 1.1.12 Cellulose acetate butyrate (CAB)
- 1.1.13 Cellulose nitrate (CN)
- 1.1.14 Cellulose propionate (CP)
- 1.1.15 Cellulose triacetate
- 1.1.16 Chlorinated polyethylene (CPE)
- 1.1.17 Chlorinated polyvinyl chloride (CPVC)  
(see 1.1.107 Polyvinyl chloride chlorinated (PVC-C))
- 1.1.18 Compounds (Polymer blends)
- 1.1.19 Copolyamide TPE-E, TPE-A/PEBA
- 1.1.20 Copolyester TPE-O, COPE
- 1.1.21 Cycloolefine Polymers
- 1.1.22 Dry blend
- 1.1.23 Self-reinforcing plastics (LCP=liquid crystal polymers)
- 1.1.24 Electrically conductive plastics
- 1.1.25 Ethylene/Acrylic acid/Butylacrylate E-AA-BA
- 1.1.26 Ethylene/chlorotrifluoroethylene copolymers (E/CTFE)
- 1.1.27 Ethylene/ethylene acrylate copolymers (E/EA)
- 1.1.28 Ethylene/methylene acrylate copolymers (E/MA)
- 1.1.29 Ethylene/tetrafluoroethylene copolymers (E/TFE)
- 1.1.30 Ethylene/VAC-copolymers (E/VA)
- 1.1.31 Ethylene/vinyl alcohol copolymers (E/VAL)
- 1.1.32 Ethylene Copolymer-Bitumen ECB
- 1.1.33 Granulates
- 1.1.34 Wood-flour-filled polypropylene (WD-PP)
- 1.1.35 Ionomers
- 1.1.36 Optical polymers
- 1.1.37 Light-collecting plastics
- 1.1.38 Masterbatches
- 1.1.39 Pastes
- 1.1.40 Poly-4-methylpentene-1

- 1.1.41 Polyacryletherketone (PAREK)
- 1.1.42 Polyacrylonitrile (PAN)
- 1.1.43 Polyamide-coating powder
- 1.1.44 Polyamides blends
- 1.1.45 Polyamid-Copolymer PA 6-66
- 1.1.46 Polyamid-Copolymer PA 66-6
- 1.1.47 Polyamide PA 11
- 1.1.48 Polyamide PA 12
- 1.1.49 Polyamide PA 46
- 1.1.50 Polyamide PA 6
- 1.1.51 Polyamide PA 610
- 1.1.52 Polyamide PA 612
- 1.1.53 Polyamide PA 6-3-T
- 1.1.54 Polyamide PA 66
- 1.1.55 Polyamids PA 6-6-T
- 1.1.56 Polyamideimide
- 1.1.57 Polyamide-RIM-systems
- 1.1.58 Polyarylamide (PA MXD6)
- 1.1.59 Polyarylate
- 1.1.60 Polyaryletherketone (PAEK)
- 1.1.61 Polybenzimidazoles
- 1.1.62 Polybismaleimide
- 1.1.63 Polybutylen
- 1.1.64 Polybutylene terephthalate (PBT)
- 1.1.65 Polybutylene terephthalate blends
- 1.1.66 Polycarbonate (PC)
- 1.1.67 Polycarbonate blends
- 1.1.68 Polyestercarbonate (PEC)
- 1.1.69 Polyetheretherketone prepreps
- 1.1.70 Polyetheretherketone (PEEK)
- 1.1.71 Polyetherimide (PEI)
- 1.1.72 Polyetherketone (PEK)
- 1.1.73 Polyethersulfone (PES, PESU)
- 1.1.74 Polyethylene expandable
- 1.1.75 Polyethylene crosslinkable
- 1.1.76 Polyethylene blends
- 1.1.77 Polyethylene PE-HD
- 1.1.78 Polyethylene PE-LD
- 1.1.79 Polyethylene PE-LLD
- 1.1.80 Polyethylene PE-MD
- 1.1.81 Polyethylene PE-UHMW
- 1.1.82 Polyethylen PE-UHMW cellular
- 1.1.83 Polyethylene PE-ULD
- 1.1.84 Polyethylene PE-VLD
- 1.1.85 Polyethylene terephthalate (PET)
- 1.1.86 Polyisobutylen PIB
- 1.1.87 Polyketone
- 1.1.88 Polymethylmethacrylate (PMMA) and copolymers  
(s. acrylic glass)
- 1.1.89 Polyoxymethylene (POM) (s. acetal copolymers)
- 1.1.90 Polyphenylene ether (PPE) modified
- 1.1.91 Polyphenylene ether blends
- 1.1.92 Polyphenylene sulfide (PPS)
- 1.1.93 Polypropylene
- 1.1.94 Polystyrene (PS)
- 1.1.95 Polystyrene expandable (EPS)
- 1.1.96 Polysulfone (PSU)
- 1.1.97 Polytetrafluoroethylene (PTFE)
- 1.1.98 Polytrifluorochloroethylene (PCTFE)
- 1.1.99 Polytrimethylene terephthalate
- 1.1.100 Polyurethane thermoplastic (PUR)
- 1.1.101 Polyvinyl acetal (PVAL)
- 1.1.102 Polyvinyl acetate (PVAC)
- 1.1.103 Polyvinyl alcohol (PVAL)



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- 1.1.104 Polyvinyl carbazole (PVK)
- 1.1.105 Polyvinyl chloride pastes
- 1.1.106 Polyvinyl chloride plasticised (PVC-P)
- 1.1.107 Polyvinyl chloride rigid (PVC-U)
- 1.1.108 Polyvinyl chloride chlorinated (PVC-C)
- 1.1.109 Polyvinyl chloride expandable
- 1.1.110 Polyvinyl chloride blends
- 1.1.111 Polyvinyl chloride copolymers
- 1.1.112 Polyvinyl fluoride (PVF)
- 1.1.113 Polyvinylidene chloride (PVDC)
- 1.1.114 Polyvinylidene fluoride (PVDF)
- 1.1.115 Prepregs, thermoplastic
- 1.1.116 Reclaimed material
- 1.1.117 Record compounds
- 1.1.118 Impact modifier
- 1.1.119 Styrene/Ē-methylstyrene copolymers (S/ĒMS)
- 1.1.120 Styrene/Butadiene-Blockcopolymer
- 1.1.121 Styrene/butadiene copolymers (SB)
- 1.1.122 Styrene/acrylonitrile copolymers (SAN)
- 1.1.123 Styrene multipolymers
- 1.1.124 Styrene polymerblends
- 1.1.125 Dipping pastes
- 1.1.126 M-ABS
- 1.1.127 Tetrafluoroethylene/perfluoroalkylvinylether copolymers (PFA)
- 1.1.128 Tetrafluoroethylene/perfluoropropylene copolymers (FEP)
- 1.1.129 Thermoplastic urethane blends TPE-U/TPU
- 1.1.130 Thermoplastic urethane TPE-U/TPU

#### Thermoplastic elastomers

- 1.2.1 Polyurethane, biobased
- 1.2.2 Thermoplastic elastomers, biobased
- 1.2.3 Thermoplastic elastomers dynamically crosslinked, TPE-V/TPV
- 1.2.4 Olefin copolymers (EP(D)M)
- 1.2.5 Polyamide 12-elastomer
- 1.2.6 Polyether block amide
- 1.2.7 Polyetherester elastomers
- 1.2.8 Polyisocyanate
- 1.2.9 PUR-Elastomers  
*SBS-Teleblockpolymer*
- 1.2.10.1 Compounds of styrenic block copolymers (SEBS, SBS, SIS..., TPE-S)
- 1.2.10.2 Styrenic block copolymers SEBS, SBS, SIS..., TPE-S (pure polymers)
- 1.2.11 Thermoplastic elastomers based on PVC, TPE/PVC
- 1.2.12 Olefin based thermoplastic elastomer, TPO
- 1.2.13 Thermoplastic PUR-elastomer
- 1.2.14 SEBS-Blockcopolymer
- 1.2.15 TPV-thermoplastic vulcanised material
- 1.2.16 Other thermoplastic elastomers

#### Resins and compounds

- 1.3.1 Epoxy resins, biobased
- 1.3.2 Polyester resins unsaturated, biobased
- 1.3.3 Bulk moulding compounds (BMC)
- 1.3.4 Coumarone resins
- 1.3.5 Dough moulding compounds (DMC)
- 1.3.6 Thermoset
- 1.3.7 High-grade-resins
- 1.3.8 Encapsulating compounds
- 1.3.9 Epoxy resins (EP)
- 1.3.10 Epoxy resins moulding compounds (EP)
- 1.3.11 EP-Prepregs
- 1.3.12 Furane resins
- 1.3.13 Casting resins

- 1.3.14 Urea/formaldehyde resins
- 1.3.15 Urea/formaldehyde resin moulding compounds
- 1.3.16 Sheet moulding compounds (SMC) (UP-SMC)
- 1.3.17 High performance composite materials as semi-finished ware, adhesive films, primer
- 1.3.18 Hybrid-Polymer
- 1.3.19 Hybrid-Polymer, inorganicorganic
- 1.3.20 Ketone resins
- 1.3.21 Cresylic resins
- 1.3.22 Artificial horn (CS)
- 1.3.23 Maleic resins
- 1.3.24 Melamine/formaldehyde resins (MF)
- 1.3.25 Melamine/formaldehyde resin moulding compounds
- 1.3.26 Melamine/phenol/formaldehyde moulding compounds (MPF)
- 1.3.27 Melamine/polyester moulding compounds
- 1.3.28 Melamine resins fibres
- 1.3.29 Methacrylat binders for polymer concrete
- 1.3.30 Methacrylat resins for polymer concrete
- 1.3.31 Phenol/formaldehyde resins (PF)
- 1.3.32 Phenol/formaldehyde resin moulding compounds (PF)
- 1.3.33 Polydiallyl phthalate (PDAP)
- 1.3.34 Polyester resins unsaturated (UP)
- 1.3.35 Polyester resin moulding compounds
- 1.3.36 Polyester resin prepregs
- 1.3.37 Polyesterimide resins
- 1.3.38 Polyetherimide resins
- 1.3.39 Polyimide resins
- 1.3.40 Prepregs, general
- 1.3.41 PU elastomers
- 1.3.42 Resorcinol resins (RF)
- 1.3.43 Silane-resins
- 1.3.44 Silicone resin moulding compounds
- 1.3.45 SMC (sheet moulding compounds)
- 1.3.46 Synthetic foams
- 1.3.47 Reinforcing materials
- 1.3.48 Vinyl ester resins
- 1.3.49 Vulcanized fibre (VF)
- 1.3.50 Xylenol/formaldehyde resins

#### Foams and intermediates

- 1.4.1 Epoxy resin foams (EP)
- 1.4.2 Ethylene/vinyl acetate foams (EVA)
- 1.4.3 Basic products PU
- 1.4.4 Isocyanurate resins
- 1.4.5 Melamine/formaldehyde foams (MF)
- 1.4.6 Phenol/formaldehyde foams (PF)
- 1.4.7 Polycarbonate structural foams (PC)
- 1.4.8 Polyethylene foams (PE)
- 1.4.9 Polyesterpolyols
- 1.4.10 Polyetherpolyols
- 1.4.11 Polyimide foams
- 1.4.12 Polyisocyanurate foams
- 1.4.13 Polymethacrylicimide foams (PMI)
- 1.4.14 Polymethylmethacrylate foams (PMMA)
- 1.4.15 Polyphenylene ether structural foams (PPE)
- 1.4.16 Polypropylene-foams (EPP)
- 1.4.17 Polystyrene foams
- 1.4.18 Polyurethane casting resins (PUR)
- 1.4.19 Polyurethane casting resins rigid structural foams-RIMsystems
- 1.4.20 Polyurethane casting resins semi-rigid structural foams-RIM-systems
- 1.4.21 Polyurethane casting resins rigid foams-systems



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- 1.4.22 Polyurethane casting resins semi-rigid foams-systems
- 1.4.23 Polyurethane casting resins flexible foams-systems
- 1.4.24 Polyurethane casting prepolymer binder resins
- 1.4.25 Polyisocyanates
- 1.4.26 Closed cell foam rubber

#### Rubbers

- 1.5.1 Acrylic rubber (ACM)
- 1.5.2 Acrylnitril/Butadiene Rubber
- 1.5.3 Brominebutyl Rubber BIIR
- 1.5.4 Butadiene rubber (BR)
- 1.5.5 Butyl rubber (IIR)
- 1.5.6 Chlorinebutyl Rubber
- 1.5.7 Chlorinated polyethylene (CM)
- 1.5.8 Chloroprene rubber (CR)
- 1.5.9 Chlorosulfonated polyethylene (CSM)
- 1.5.10 Cis-1,4-polybutadiene (BR)
- 1.5.11 Cis-1,4-polyisoprene (IR)
- 1.5.12 Epichlorohydrin rubber (Co/ECO/ETER)
- 1.5.13 Ethylene/propylene terpolymers (EPDM)
- 1.5.14 Ethylene/VAC-copolymers (E/VA)
- 1.5.15 Fluoro rubber (FPM) (CFM) (MFQ)
- 1.5.16 Hydrogenated acrylonitrile/ butadiene rubber
- 1.5.17 Natural rubber mixers
- 1.5.18 Synthetic rubber mixes
- 1.5.19 Natural rubber
- 1.5.20 Nitrile rubber
- 1.5.21 Polysulfide rubber
- 1.5.22 Silicone rubber (SI)
- 1.5.23 Silicone rubber 2-componemtic, liquid, incl. auxiliaries
- 1.5.24 Silicone rubber MVQ rigid incl. Auxiliaries
- 1.5.25 Silicone rubber room temperature curing, 2-comp., incl. auxiliaries
- 1.5.26 Styrene/butadiene rubber (SBR)
- 1.5.27 Urethane rubber (AU) (EU)

#### Synthetic fibres, bristles, tapes

- 1.6.1 Acrylonitrile copolymers fibres (PAN-fibres)
- 1.6.2 Aramide fibres
- 1.6.3 Cellulose fibres (Viscose-, Acetate fibres)
- 1.6.4 Hybrid fibre reinforcements (s. UP- and EP-resins)
- 1.6.5 Carbon fibres (CF)
- 1.6.6 Polyamide fibres
- 1.6.7 Polyester fibres
- 1.6.8 Polypropylene fibres
- 1.6.9 Polystyrene fibres
- 1.6.10 Polyurethane fibres
- 1.6.11 Polyvinyl alcohol fibres
- 1.6.12 Polyvinyl chloride fibres
- 1.6.13 Vinylidene chloride/vinyl chloride copolymer fibres

#### Coating compounds

- 1.7.1 Atactic olefin polymers
- 1.7.2 Bitumen blends
- 1.7.3 Epoxy resins (EP)
- 1.7.4 Ethylene/acrylate copolymers (EA)
- 1.7.5 Ethylene/acrylic acid copolymers (EAA)
- 1.7.6 Ethylene/VAC-copolymers (E/VA)
- 1.7.7 Furane resins
- 1.7.8 Isocyanate resins
- 1.7.9 Modified phenolic resins
- 1.7.10 Polyvinyl acetate (PVAC)
- 1.7.11 Silicone elastomers (LSR a.RTV 2K) incl. auxiliaries
- 1.7.12 Unsaturated polyester resins (UP)
- 1.7.13 Gelcoats

#### Adhesives and glues

- 1.8.1 Flock-adhesive
- 1.8.2 Binders
- 1.8.3 Copolyamid-adhesives mouldes
- 1.8.4 Copolyester-adhesives mouldes
- 1.8.5 Cyanacrylate
- 1.8.6 Dispersion adhesives
- 1.8.7 Rubber to Metal Bonding Agents or Primers and Bonding Agents for Rubber to Metal (bonding agent or adhesive systems)
- 1.8.8 Pressure sensitive adhesives
- 1.8.9 Heat sealing adhesives
- 1.8.10 Wood-glues
- 1.8.11 Contact adhesives
- 1.8.12 Solvent-based adhesives
- 1.8.13 Paper-glues
- 1.8.14 Plastisol adhesives
- 1.8.15 One-pack adhesives
- 1.8.16 Two-pack adhesives
- 1.8.17 Hot melt adhesives
- 1.8.18 Textil finishes

#### Paint resins

- 1.9.1 Aldehyde resins
- 1.9.2 Alkyd resins
- 1.9.3 Cellulose esters
- 1.9.4 Cellulose nitrate (CN)
- 1.9.5 Chlorinated polypropylene
- 1.9.6 Chlorinated rubber
- 1.9.7 Coumarone resins
- 1.9.8 Cyclo rubber
- 1.9.9 E/EVA copolymers
- 1.9.10 Epoxy resins (EP)
- 1.9.11 Urea/formaldehyde resins
- 1.9.12 Indene resins
- 1.9.13 Rubber hydrochloride
- 1.9.14 Ketone resins
- 1.9.15 Paint auxiliaries
- 1.9.16 Maleic resins
- 1.9.17 Melamine/formaldehyde resins (MF)
- 1.9.18 Mixed polyamides
- 1.9.19 Phenol/formaldehyde resins (PF)
- 1.9.20 Polyacrylate resins
- 1.9.21 Polyaminoamides
- 1.9.22 Polyesters unsaturated
- 1.9.23 Polyesterimide resins
- 1.9.24 Polyurethanes
- 1.9.25 Polyvinyl acetates (PVAC)
- 1.9.26 Polyvinyl alcohols (PVAL)
- 1.9.27 Polyvinyl butyrals
- 1.9.28 Polyvinyl ethers
- 1.9.29 Silicones

#### Additives

- 1.10.1 Stripper/paint remover
- 1.10.2 Additives, other
- 1.10.3 Additives for laser transmission welding
- 1.10.4 Additive concentrates
- 1.10.5 Adipates
- 1.10.6 Activators
- 1.10.7 Ageing stabilizers
- 1.10.8 Aluminium powders/ -pastes
- 1.10.9 Aluminium trihydrate
- 1.10.10 Amine accelerator



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1.10.11 Amine sterically hindered  
1.10.12 Ammonium Persulfate  
1.10.13 Antisettling agents  
1.10.14 Antiblocking agents  
1.10.15 Antimony trioxide  
1.10.16 Antioxidants  
1.10.17 Antifoam agents  
1.10.18 Antislip agents  
1.10.19 Antistatic agents  
1.10.20 Protective materials for industry  
1.10.21 Azo pigments  
1.10.22 Ba/Cd-Stabilisers  
1.10.23 Accelerators  
1.10.24 Binders  
1.10.25 Biodegradable additives  
1.10.26 Biostabilisers  
1.10.27 Agents biozides  
1.10.28 Fire protection agents  
1.10.29 Bronze powder  
1.10.30 Colour pigments  
1.10.31 Ca/Zn-Stabilisers  
1.10.32 Cadmium pigments  
1.10.33 Chelators  
1.10.34 Chloroparaffins  
1.10.35 Dissolver (s. 1.10.72 Solvents)  
1.10.36 Chrome pigments  
1.10.37 Cyanuric Chloride  
1.10.38 Dispersing agents  
1.10.39 Dithiocarbonate accelerator  
1.10.40 Effect pigments  
1.10.41 Iron oxide pigments  
1.10.42 Elasticators  
1.10.43 Emulsifiers  
1.10.44 Epoxy plasticiser  
1.10.45 Extender  
1.10.46 Factice  
1.10.47 Color Masterbatches  
1.10.48 Colourants  
1.10.49 Color Blacks (s. 1.10.99 Carbon black)  
1.10.50 Dyestuffs, soluble  
1.10.51 Solid lubricants  
1.10.52 Flexibilisers  
1.10.53 Flow auxiliaries  
Mould release agents (s. 1.10.113 Release agents)  
1.10.54 Liquid dyes  
1.10.55 Functional pigments  
1.10.56 Shiner  
1.10.57 Lubricants  
1.10.58 Guanidine accelerator  
1.10.59 Adhesives  
1.10.60 Coupling agents  
1.10.61 Hardener (EP resins)  
1.10.62 Hardener (UP resins)  
1.10.63 Hydrolysis inhibitors  
1.10.64 Inhibitors  
1.10.65 Initiators  
1.10.66 Isophorone Diamind  
1.10.67 Nucleating agent (see 1.10.81 Nucleating agents)  
1.10.68 Kicker  
1.10.69 Preservatives  
1.10.70 Additives for electrostatic spray paints  
1.10.71 Light stabilisers (s. UV stabilizers)  
1.10.72 Solvents  
1.10.73 LP-Additives

1.10.74 Masticating agents  
1.10.75 Matting agent  
1.10.76 Mercapto accelerator  
1.10.77 Metal deactivators  
1.10.78 Microbicides  
1.10.79 Montan waxes  
1.10.80 Sodim Persulfate  
1.10.81 Nucleating agents  
1.10.82 Optical brighteners  
1.10.83 Ozone resisters  
1.10.84 Paraformaldehyde  
1.10.85 Pentaerythritol  
1.10.86 Pearlescent pigments  
1.10.87 Inhibitors  
1.10.88 Phosphorescence colourants  
1.10.89 Photoinitiators  
1.10.90 Phthalate plasticisers  
1.10.91 Phthalocyanine pigments  
1.10.92 Pigment Black, Pigment Black Preparations  
1.10.93 Polishing agents  
1.10.94 Polycyclic pigments  
1.10.95 Polymerisation Initiator  
1.10.96 Porosity regulators  
1.10.97 Quencher  
1.10.98 Smoke density reductioners  
1.10.99 Carbon black  
1.10.100 Foaming agents  
1.10.101 Foamstabilisers  
1.10.102 Impact modifiers  
1.10.103 Black pigments  
1.10.104 Secondary plasticisers  
1.10.105 Stabilizers  
1.10.106 Stearates  
1.10.107 Stearic acid  
1.10.108 Sulfenamide accelerators  
1.10.109 Daylight fluorescent pigments  
1.10.110 Termite protective agents  
1.10.111 Thiuram accelerators  
1.10.112 Thixotropic agents  
1.10.113 Release agents  
1.10.114 Ultramarine pigments  
1.10.115 UV stabilizer  
1.10.116 Processing auxiliaries  
1.10.117 Thickeners  
1.10.118 Diluents  
1.10.119 Flow control agents  
1.10.120 Crosslinking agents  
1.10.121 Vulcanisation accelerator  
1.10.122 Vulcanisation inhibitors  
1.10.123 Vulcanising agents  
1.10.124 Waxes  
1.10.125 Hydrogen peroxide  
1.10.126 Plasticiser  
1.10.127 White pigments

#### Fillers

1.11.1 Aktisil  
1.11.2 Aluminium hydroxide  
1.11.3 Andalusite  
1.11.4 Barium ferrite  
1.11.5 Barium sulfate (barytes, blanc fixe)  
1.11.6 Calcium carbonate  
1.11.7 Cellulose powder  
1.11.8 Cristobalite



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1.11.9 Dolomite  
1.11.10 Electrochemical corundum  
1.11.11 Feldspars  
1.11.12 Filter concentration  
1.11.13 Glass beads  
1.11.14 Graphite  
1.11.15 Wood flour  
1.11.16 Kaolin  
1.11.17 Core flour  
1.11.18 Siliceous earth  
1.11.19 Kieselguhr  
*Fillers and reinforcement*  
1.11.20.1 Precipitated silices  
1.11.20.2 Natural amorphous silica  
1.11.20.3 Pyrogenic silica  
1.11.21 Carbon  
1.11.22 Cryolite  
1.11.23 Metal powder  
1.11.24 Microbeads rigid and hollow  
1.11.25 Nepheline  
1.11.26 Olivine  
1.11.27 Fused silica  
1.11.28 Quartz gravel, sand, flour  
1.11.29 Organic shellflower  
1.11.30 Mineral fillers  
1.11.31 Silicon carbide  
1.11.32 Silicate hollow beads  
1.11.33 Sillimanite  
1.11.34 Sillitin  
1.11.35 Talc  
1.11.36 Wollastonite  
1.11.37 Zinc oxide

**Reinforcing fibres, -materials**

1.12.1 Aramide fibres  
1.12.2 Basalt fibres  
1.12.3 Boron fibres  
1.12.4 Cellulose fibres  
1.12.5 Self-reinforcing fibres  
1.12.6 Glass fibres (s. Textile glass)  
1.12.7 Glass beads  
1.12.8 Mica  
1.12.9 Graphite fibres  
1.12.10 Ceramic fibres  
1.12.11 Carbon fibres (CF)  
1.12.12 Metal fibres  
1.12.13 Metal oxide fibres  
1.12.14 Microbeads (glass, silicate, hollow and rigid)  
1.12.15 Natural fibres  
1.12.16 Phenolic resin fibres  
1.12.17 Polyacrylonitrile fibres  
1.12.18 Polybenzimidazole fibres  
1.12.19 Polybenzoxazole fibres  
1.12.20 Polyquinazoline fibres  
1.12.21 Polyimide fibres  
1.12.22 Polyoxydiazole fibres  
1.12.23 Polytriazole fibres  
1.12.24 Textile glass (cut and milled)  
1.12.25 Textile glass fabric  
1.12.26 Textile glass mats  
1.12.27 Textile glass rovings  
1.12.28 Textile glass non wovens  
1.12.29 Textile glass mesh  
1.12.30 Whiskers

1.12.31 Wollastonite

**Starting materials, intermediate, polymerisation auxiliaries**

1.13.1 Adipic acid  
1.13.2 AH-salt  
1.13.3 Aminoundecane carboxylic acid  
1.13.4 Azealic acid  
1.13.5 Benzidine  
1.13.6 Benzimidazole  
1.13.7 Benzoyl peroxide  
1.13.8 Bismaleimide  
1.13.9 Bisphenol A  
1.13.10 Butene-1  
1.13.11 Butenediol  
1.13.12 Caprolactam  
1.13.13 Cellulosecarbodiimide  
1.13.14 Quinoline  
1.13.15 Quinoxaline  
1.13.16 Diamine  
1.13.17 Diglycidyle compounds  
1.13.18 Diols  
1.13.19 Dispersions  
1.13.20 E-Aminocaprolactam  
1.13.21 Epichlorohydrin  
1.13.22 Ethyl benzene  
1.13.23 Ethylene glycol  
1.13.24 Formaldehyde  
1.13.25 Fumaric acid  
1.13.26 HET-acid  
1.13.27 Hexmethylene diamind  
1.13.28 Isocyanates  
1.13.29 Catalysts  
1.13.30 Maleic acid  
1.13.31 Peroxides  
1.13.32 Phenol  
1.13.33 Phthalates  
1.13.34 Polyester  
1.13.35 Polyether  
1.13.36 Polymerization auxiliaries  
1.13.37 Polymerization-catalysts  
1.13.38 Polyols  
1.13.39 Polyurethane systems PU  
1.13.40 Raw materials  
1.13.41 Silanes  
1.13.42 Siloxanes  
1.13.43 Synthetic powder  
1.13.44 Toluene diisocyanate  
1.13.45 Triallylcyanurate  
1.13.46 Trichloroethane  
1.13.47 Trioxane  
1.13.48 Vinyl acetate  
1.13.49 Vinyl benzene  
1.13.50 Vinyl carbazole  
1.13.51 Vinyl chloride  
1.13.52 Vinyl ether  
1.13.53 Vinylidene chloride  
1.13.54 Vinylidene fluoride  
1.13.55 Vinyl toluene

**Others**

1.14.1 Linings and coatings  
1.14.2 Decorative films  
1.14.3 Printing inks



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- 1.14.4 Embedding compounds
- 1.14.5 Electrical insulation compounds
- 1.14.6 Flock
- 1.14.7 Jointing fillers
- 1.14.8 Impregnating agents
- 1.14.9 Cable compounds
- 1.14.10 Preservatives
- 1.14.11 Anticorrosive effect
- 1.14.12 Paints, coatings
- 1.14.13 Metal ceramic composites
- 1.14.14 Metal matrix composite materials
- 1.14.15 Metal polymer composites
- 1.14.16 Nanocomposites
- 1.14.17 Stamping foils
- 1.14.18 Purging compound
- 1.14.19 Cleaners
- 1.14.20 Suction flooring
- 1.14.21 Special ceramic products
- 1.14.22 Trowelling compounds
- 1.14.23 Industrial gases
- 1.14.24 Composite materials

## 2

### Plastics Products and processing

#### Processing technologies

- 2.1.1 Parts made by blow moulding
- 2.1.2 Products made by extrusion
- 2.1.3.1 Production/Preparation of reinforced plastics products by spray-up
- 2.1.3.2 Production/Preparation of reinforced plastics products by hand lay-up
- 2.1.3.3 Production/Preparation of reinforced plastics products by pultrusion
- 2.1.3.4 Production/Preparation of reinforced plastics products by RTM
- 2.1.3.5 Production/Preparation of reinforced plastics products by deformation
- 2.1.3.6 Production/Preparation of reinforced plastics products by wet compression moulding
- 2.1.3.7 Production/Preparation of reinforced plastics products by combined processes
- 2.1.3.8 Production/Preparation of reinforced plastics products by winding
- 2.1.4 Products made by calendaring
- 2.1.5 Parts made by laminating
- 2.1.6 Parts made by mechanical treating
- 2.1.7 Parts made by compression moulding
- 2.1.8 Parts made by rotation moulding
- 2.1.9 Parts made by foaming
- 2.1.10 Parts made by injection moulding
- 2.1.11 Parts made by thermoforming

#### Follow on treatment of plastics products

- 2.2.1 Vapour-deposit decorating
- 2.2.2 Galvanization
- 2.2.3 Printing
- 2.2.4 Type printing
- 2.2.5 Welding
- 2.2.6 Embossing

#### Supplying

- 2.3.1 Plastics products and parts for plant building
- 2.3.2 Plastics products and parts for automotive

- 2.3.3 Plastics products and parts for building applications
- 2.3.4 Plastics products and parts for office equipment/promotion
- 2.3.5 Plastics products and parts for household/consumer
- 2.3.6 Plastics products and parts for electro-/household appliance
- 2.3.7 Plastics products and parts for electrical engineering
- 2.3.8 Plastics products and parts for data appliance
- 2.3.9 Plastics products and parts for agriculture
- 2.3.10 Plastics products and parts for aviation
- 2.3.11 Plastics products and parts for mechanical engineering
- 2.3.12 Plastics products and parts for medical engineering
- 2.3.13 Plastics products and parts for furniture appliances
- 2.3.14 Plastics products and parts for food processing industry
- 2.3.15 Plastics products and parts for transport/packaging
- 2.3.16 Plastics products and parts for optics/precision engineering

#### Product groups

##### Semi finished products

- 2.4.1.1 Semi finished products of acryl-nitrile-butadiene (ABS)
- 2.4.1.2 Semi finished products of GMT
- 2.4.1.3 Semi finished products of polyamide (PA)
- 2.4.1.4 Semi finished products of polycarbonate (PC)
- 2.4.1.5 Semi finished products of polyethylene (PE)
- 2.4.1.6 Semi finished products of polymethylmethacrylate (PMMA)
- 2.4.1.7 Semi finished products of polypropylene (PP)
- 2.4.1.8 Semi finished products of polystyrene (PS)
- 2.4.1.9 Semi finished products of polytetrafluorethylene (PTFE)
- 2.4.1.10 Semi finished products of polyurethane (PUR)
- 2.4.1.11 Semi finished products of polyvinylchloride (PVC)
- 2.4.1.12 Semi finished products of rubber
- 2.4.1.13 Semi-finished parts/products made from fibre-reinforced plastics
- 2.4.1.14 Semi finished parts/products made from Polyimide
- 2.4.1.15 other and machined semi finished products/Pre-cut parts
- 2.4.2 Films
- 2.4.3.1 Parts from standard plastics
- 2.4.3.2 Parts from engineering plastics
- 2.4.3.3 Parts from high performance thermoplastics
- 2.4.3.4 Parts from free flowing thermosets
- 2.4.3.5 Technical Parts from Bulk Molding Compound/Sheet Molding Compound
- 2.4.4 Compounds/Recyclates

#### Products

- 2.5.1 Apparatus and parts
- 2.5.2 Armatures and parts
- 2.5.3 Linings and coatings
- 2.5.4 Fastenings
- 2.5.5 Flocking
- 2.5.6 Containers
- 2.5.7 Coatings
- 2.5.8 Office machinery-parts
- 2.5.9 Data-processing equipment
- 2.5.10 Sealing profiles
- 2.5.11 Sealings/Sealrings
- 2.5.12 Torsion vibration damper / Vibration damper / -isolation
- 2.5.13 Printing blankets
- 2.5.14 Electrical equipments-parts
- 2.5.15 Electrical installation material



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2.5.16 Bellows, expandible  
2.5.17 Telecommunication equipment - parts  
2.5.18 Television sets - parts  
2.5.19 Film cameras, cameras - technical parts  
2.5.20 Filters and parts  
2.5.21 Conveyor belts  
2.5.22 Galvanized parts  
2.5.23 Casings and cabinets  
2.5.24 Glass-fibre reinforced plastic parts (GRP)  
2.5.25 Handles  
2.5.26 Rubber hollow springs  
2.5.27 Rubber / plastics combinations  
2.5.28 Rubber / plastics / metal combinations  
2.5.29 Rubberised fabrics  
2.5.30 Laminated fabric and laminated paper  
2.5.31 Hot melt films  
2.5.32 Laboratory equipment- technical parts  
2.5.33 Storage and transport containers  
2.5.34 Bearing boxes, bushes and sections  
2.5.35 Bogie wheels and runners  
2.5.36 Lamps and components  
2.5.37 Light Louvres  
2.5.38 Air Springs  
2.5.39 Ventilation grids  
2.5.40 Packing rings  
2.5.41 Membranes  
2.5.42 Membrane films  
2.5.43 Parts for measuring instruments  
2.5.44 Metalised parts  
2.5.45 Micro parts  
2.5.46 Power unit bearings  
2.5.47 Surface treated and decorated parts  
2.5.48 Pallets  
2.5.49 Boards and vulcanite boards  
2.5.50 Parts for pumps  
2.5.51 Radio and phonographic equipment - parts  
2.5.52 Tyres and accessories  
2.5.53 Belts  
2.5.54 Sandwich cores  
2.5.55 Suction cups  
2.5.56 Foam products  
2.5.57 Laminates, technical  
2.5.58 Hoses  
2.5.59 Hose elbows  
2.5.60 Cords  
2.5.61 Protective covers, hoods and wrappers  
2.5.62 Welding foil  
2.5.63 Scales  
2.5.64 Spools and spool bodies  
2.5.65 Pressed parts in accordance with sample, drawing or customer's tools  
2.5.66 Structural foam parts according to sample, drawing or customers tools  
2.5.67 Tanks  
2.5.68 Technical films  
2.5.69 Parts of industrial laminates  
2.5.70 Separating foils  
2.5.71 Clock and watch parts  
2.5.72 Ventilator parts  
2.5.73 Valves  
2.5.74 Composite boards  
*Reinforced plastic parts/products*  
2.5.75.1 Fibreglass-reinforced plastic parts  
2.5.75.2 Carbon-reinforced plastic parts

2.5.75.3 Other fibre-reinforced plastic parts  
2.5.76 Rollers and roller coatings  
2.5.77 Plastic Heat Exchanger  
2.5.78 Heat insulation plates  
2.5.79 Soft rubber boards  
2.5.80 Toothed wheels and racks  
2.5.81 Extra springs made of micro-celled Potyurethane Elastomers

### 3

## Machinery and equipment for the plastics and rubber industries

### Machines and equipment for preprocessing and recycling

#### Mixers

3.1.1.1 Mixers, continuous type, for solids  
3.1.1.2 Mixers, continuous type, for liquids  
3.1.1.3 Mixers, batch type, for solids  
3.1.1.4 Mixers, batch type, for liquids  
3.1.1.5 Internal mixers  
3.1.2 Two roll mills  
3.1.3 Size reduction equipment (crushers, shredders, grinders)  
3.1.4 Screening machines, classifiers, dedusting systems for plastic pellets  
3.1.5 Extrusion lines for compounding  
3.1.6 Pelletizers  
3.1.7 Screen changers  
3.1.8 Melt filters  
3.1.9 Compounding lines  
*Recycling plants*  
3.1.10.1 Recycling plants for sorted waste  
3.1.10.2 Recycling plants for mixed waste  
3.1.10.3 Recycling plants for EPS, EPP, EPE waste  
3.1.10.4 Recycling plants for PUR waste  
3.1.10.5 Recycling plants for rubber waste  
3.1.11 Separating and sorting systems for waste

### Machinery and plant for processing

#### Extruders and extrusion lines

3.2.1.1 Extruders  
3.2.1.2 Single screw extruders  
3.2.1.3 Twin screw extruders  
3.2.1.4 Multiple screw extruders  
3.2.1.5 Ram extruders  
*Extrusion lines*  
3.2.1.6.1 Extrusion lines for blown film  
3.2.1.6.2 Extrusion lines for flat film and sheets  
3.2.1.6.3 Extrusion lines for tapes  
3.2.1.6.4 Extrusion lines for mono- and multifilaments  
3.2.1.6.5 Extrusion lines for pipes and profiles  
3.2.1.6.6 Extrusion lines for laminating and coating  
3.2.1.6.7 Extrusion lines for sheathing of pipes and cables  
3.2.1.6.8 Extrusion lines for flexible hoses  
3.2.1.6.9 Extrusion lines for rubber  
3.2.1.6.10 Extrusion lines for composites  
*Injection moulding machines*  
*Injection moulding machines, general purpose*  
3.2.2.1.1 Injection moulding machines up to 250 kN clamping force  
3.2.2.1.2 Injection moulding machines above 250 kN to 1000 kN clamping force  
3.2.2.1.3 Injection moulding machines above 1000 kN to 4000 kN clamping force



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- 3.2.2.1.4 Injection moulding machines above 4000 kN to 10000 kN clamping force
- 3.2.2.1.5 Injection moulding machines above 10000 kN clamping force
- 3.2.2.2 Injection moulding machines, multi-component
- 3.2.2.3 Injection moulding machines, multi-station
- 3.2.2.4 Injection moulding machines for composites
- 3.2.2.5 Injection moulding machines, for thermosets
- 3.2.2.6 Injection moulding machines, for rubber  
*Blow moulding machines*
- 3.2.3.1 Extrusion blow moulding machines
- 3.2.3.2 Extrusion stretch blow moulding machines
- 3.2.3.3 Injection blow moulding machines
- 3.2.3.4 Injection stretch blow moulding machines
- 3.2.3.5 Stretch blow moulding machines (reheat)  
*Presses*  
*Compression moulding machines and transfer moulding machines*
- 3.2.4.1.1 Compression and transfer moulding presses for plastics
- 3.2.4.1.2 Compression and transfer moulding presses for rubber
- 3.2.4.1.3 Compression and transfer moulding presses for composites
- 3.2.4.2 Tableting presses
- 3.2.4.3 Double belt presses
- 3.2.4.4  
*Machinery for foam and reactive resins*
- 3.2.5.1 Preexpanders, foaming machinery for parts and blocks (for EPS, EPP, EPE)
- 3.2.5.2 Reaction moulding machinery and plant
- 3.2.5.3 Machinery for processing/post processing of foam and parts
- 3.2.5.4 Filament winding machines
- 3.2.5.5 Casting machines for open moulds
- 3.2.5.6 Pultrusion equipment
- 3.2.5.7 Spraying equipment
- 3.2.6 Calenders
- 3.2.7 Rotational moulding machines
- 3.2.8 Sheet casting machines
- 3.2.9 Machines for the tyre industry  
*Machines and equipment for additive manufacturing*
- 3.2.10.1 Machines for binder jetting technology (3D printing)
- 3.2.10.2 Machines for fused deposition modeling (FDM)
- 3.2.10.3 Machines for stereolithography (STL, SLA)
- 3.2.10.4 Machines for selective laser sintering (SLS)
- 3.2.10.5 Machines for polyjet modeling (PJ)
- 3.2.10.6 Other machines for additive manufacturing
- Post processing machines and downstream equipment**  
*Thermoforming machines*
- 3.3.1.1 Thermoforming machines for films
- 3.3.1.2 Thermoforming machines for sheets
- 3.3.2 Bending, folding and edgetrimming machines
- 3.3.3 Pipe belling and socketing machines
- 3.3.4 Cutting machines
- 3.3.5 Winding equipment
- 3.3.6 Slitter rewinders
- 3.3.7 Splitting machines, peeling machines
- 3.3.8 Punching and perforating machines
- 3.3.9 Milling machines
- 3.3.10 Deflashing equipment
- 3.3.11 Bag and sack making equipment
- 3.3.12 Powder and talc application equipment
- 3.3.13 Stretching lines for film, filament etc.  
*Corrugators*
- 3.3.14.1 Pipe corrugators
- 3.3.14.2 Sheet corrugators
- 3.3.15 Vulcanizers

#### Machinery and plant for finishing, decorating, printing and marking

- 3.4.1 Printing equipment for plastic and rubber products
- 3.4.2 Marking equipment
- 3.4.3 Embossing equipment
- 3.4.4 Laminating plant
- 3.4.5 Coating plant
- 3.4.6 Flocking plant
- 3.4.7 Metallizing plant (vacuum deposition)
- 3.4.8 Equipment for In-Mould-Decoration (IMD)
- 3.4.9 Equipment for In-Mould-Labeling (IML)

#### Welding machines

- 3.5.1 Hot-plate welding machines
- 3.5.2 Heat impulse welding machines
- 3.5.3 High-frequency welding machines
- 3.5.4 Ultrasonic welding machines
- 3.5.5 Hot gas welding machines
- 3.5.6 Friction welding machines
- 3.5.7 Extrusion welding machines
- 3.5.8 Laser beam welding machines
- 3.5.9 Infrared welding machines
- 3.5.10 Electron beam welding

#### Moulds and dies

- 3.6.1 Injection and compression moulds
- 3.6.2 Blow moulds
- 3.6.3 Extrusion dies
- 3.6.4 Standard parts for moulds
- 3.6.5 Hotrunner systems
- 3.6.6 Moulds

#### Process automation

- 3.7.1 Control equipment
- 3.7.2 Edge and center sensors
- 3.7.3 Closed loop control equipment for pressure
- 3.7.4 Closed loop control equipment for temperature
- 3.7.5 Closed loop control equipment for tensile stress of film, sheet
- 3.7.6 Machine vision systems  
*Material handling*
- 3.7.7.1 Silos
- 3.7.7.2 Silo discharge devices
- 3.7.7.3 Driers for bulk materials  
*Conveyors (except factory trucks and carts)*
- 3.7.7.4.1 Pneumatic conveyors
- 3.7.7.4.2 Screw conveyors
- 3.7.7.4.3 Spiral conveyors
- 3.7.7.4.4 Belt conveyors  
*Dosing and metering equipment*
- 3.7.7.5.1 Volumetric dosing and metering equipment
- 3.7.7.5.2 Gravimetric dosing and metering equipment  
*Handling technology*
- 3.7.8.1 Handling devices
- 3.7.8.2 Manipulating industrial robots, reprogrammable
- 3.7.8.3 Assembly systems
- 3.7.8.4 Sprue separating equipment  
*Mould changing*
- 3.7.9.1 Mould stores
- 3.7.9.2 Mould changing transporters
- 3.7.9.3 Mould preheating stations
- 3.7.9.4 Mould changing systems  
*Mould fixing devices (power operated)*
- 3.7.9.5.1 Mechanical mould fixing devices





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- 3.7.9.5.2 Magnetic mould fixing devices
- 3.7.9.6 Energy couplings  
*Packaging technology for moulded parts and semifinished products*
- 3.7.10.1 Stacking devices
- 3.7.10.2 Shrinking machines
- 3.7.10.3 Blister packaging machines
- 3.7.10.4 Equipment for cartoning
- 3.7.10.5 Equipment for palletizing
- 3.7.10.6 Equipment for strapping
  
- Digitalization**
- 3.8.1 CAD systems
- 3.8.2 Simulation software
- 3.8.3 Quality assurance software (SPC/SQC)
- 3.8.4 Maintenance software
- 3.8.5 Equipment and software for manufacturing execution system (MES)
  
- Ancillary equipment**
- 3.9.1 Surface pretreatment equipment  
*Heating and cooling technology*
- 3.9.2.1 Heating and cooling units
- 3.9.2.2 Water chillers
- 3.9.2.3 Internal cooling equipment
- 3.9.3 Metal separators
- 3.9.4 Dust and fume extraction systems / Dedusting systems
- 3.9.5 Cleanroom systems
- 3.9.6 Degassing systems
- 3.9.7 Melt pumps
- 3.9.8 Equipment for gas injection
- 3.9.9 Equipment for water injection
- 3.9.10 Electrostatic systems
- 3.9.11 Mould and die cleaning equipment
- 3.9.12 Equipment for injecting foaming agents into the melt
  
- Measuring and test equipment**
- 3.10.1 Measuring and test equipment for rheological properties  
*Measuring and test equipment for mechanical or dynamic properties*
- 3.10.2.1 Thickness gauges
- 3.10.2.2 Measuring equipment for melt pressure
- 3.10.2.3 Measuring equipment for tensile stress of film, sheet
- 3.10.2.4 Leak detectors
- 3.10.2.5 Measuring and test equipment for tensile tests
- 3.10.2.6 Measuring and test equipment for bending tests
- 3.10.3 Measuring equipment for melt temperature
- 3.10.4 Measuring and test equipment for thermal properties
- 3.10.5 Measuring and test equipment for geometrical properties
- 3.10.6 Measuring and test equipment for gaseous properties
- 3.10.7 Measuring and test equipment for electrical properties
- 3.10.8 Measuring and test equipment for optical properties
- 3.10.9 Measuring equipment for moisture content
- 3.10.10 Accelerated weathering equipment
- 3.10.11 Precision weighing equipment
- 3.10.12 Plastic types identification equipment
  
- Parts and components**
- 3.11.1 Screws
- 3.11.2 Barrels
- 3.11.3 Rolls
- 3.11.4 Nozzles
- 3.11.5 Heating elements
- 3.11.6 Machine blades

- 3.11.7 Rotary unions for liquids

## 4

### Services for the plastics and rubber industrie

- 4.1 Computer software services**
  
- Professional literature**
- 4.2.1 Trade directories
- 4.2.2 Technical books
- 4.2.3 Technical dictionaries
- 4.2.4 Professional periodicals
  
- 4.3 Trade associations**
  
- 4.4 Leasing**
  
- 4.5 Subcontracting**
  
- 4.6 Science and consulting**