Delivery Programme

United Kingdom
Ireland

K.D. FEDDERSEN
DISTRIBUTION

What can we do for you?

K.D. Feddersen is your global partner for comprehensive know-how in engineering plastics.

We speak your language and support you throughout the entire process.

We support you in the selection of plastics and know our way around:

- Specification sheets
- OEM specifications
- Approvals and regulations

Our application development always includes the latest trends and technologies for:

- Part design
- Mould concept
- Machine selection

With our process optimisation we ensure:

- Efficiency enhancement
- Quality optimisation
- Decrease of rejects

Even if there are problems, we are there for you:

- Root cause analysis
- On-site assistance
- Complaints handling

We share our knowledge and train you on site or via webinar:

- Basics of plastics
- Basics of injection moulding
- Process optimisation

With project-related marketing, we help you ensure that your projects get the attention they need:

- Press releases
- Professional articles
- Website and social media

Certified management systems

K.D. Feddersen GmbH & Co. KG is certified to the following standards:

- Information security management system (via the K.D. Feddersen Holding GmbH) **ISO / IEC 27001 : 2022**
- Quality management system incl. IQNet **ISO 9001 : 2015**
- Environmental management system **ISO 14001 : 2015**
- Sustainability **ISCC PLUS**

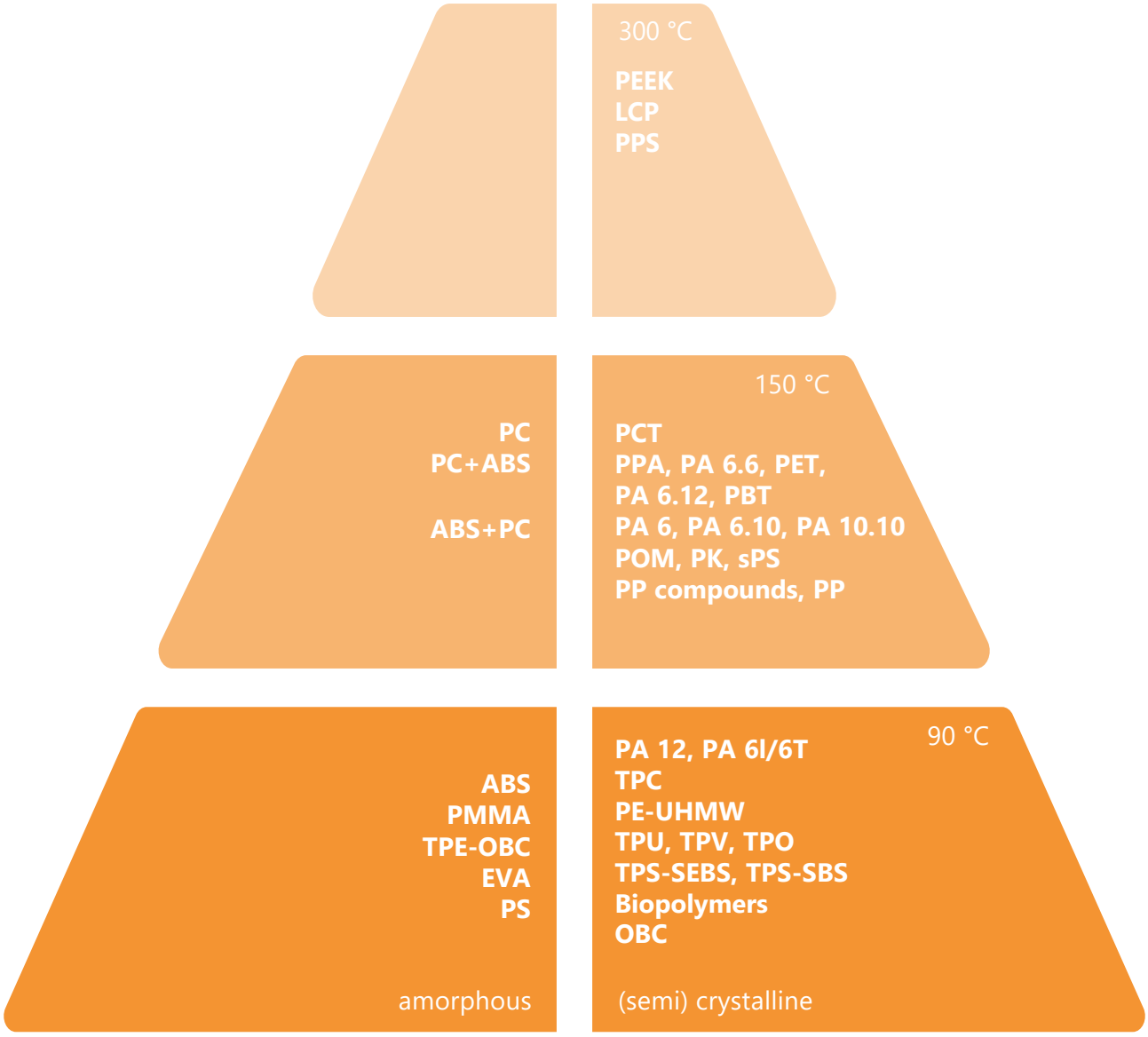
Plastics engineering product development

M.TEC ENGINEERING GmbH has been part of the Feddersen Group since 2018. The Aachen-based engineers develop technical products from idea to series maturity, primarily in the markets of automotive, medical technology, household appliances, electronic devices and building systems technology.

M.TEC supports you in every step of your plastics engineering: analysis and conception, development and design, calculation and simulation (mold flow analysis, FEM calculation), trial and test runs as well as industrialisation (tool technology) – an added value for your projects.

Our products

We offer you a large selection of engineering plastics for a wide range of applications. In the overview below you can see our product portfolio sorted by polymer types and RTI continuous service temperature. Our portfolio ranges from ABS, bioplastics, thermoplastic elastomers, PP and recyclates to high-performance plastics. Contact us!



Our products

Celanese

The chemistry inside innovation™

Amcel®	POM copolymers
Ateva®G	EVA
Celanex®, Celanex® Eco-B	PBT
Celstran®	LFRT
Crastin®, Crastin® ECO-B	PBT
Coolpoly®	Thermally conductive compounds
Elvamide®	LCPA
Forflex®	TPO
Fortron®	PPS
Gur®, Gur® Eco-B	PE-UHMW
Hostaform®, Hostaform® ECO-B,	
Hostaform® ECO-C, Kepital®, Celcon®	POM copolymers
Impet®	PET
Laprene®	TPS-SEBS
Polifor®	PP
Rynite®	PET
Selar®	PA 6I/6T
Sofprene®	TPS-SBS
Talcoprene	PP/TALC
Tecnoprene®	PP/GF
Thermx®	PCT
Vectra®	LCP
Zenite®	LCP
Zytel® HTN	PPA
Zytel® LCPA	PA 10.10, PA 6.10, PA 6.12

Ascend Performance Materials

HiDura®	PA 6.10, PA 6.12, PA-HT
ReDefyne	Recyceled PA 6.6-, PA 6 compounds
Starflam®	PA 6, PA 6.6, PA 6.6/6

Our products

ASCEND PERFORMANCE MATERIALS

Vydyne®	PA 6.6
Vydyne® B	PA 6

poliblend™ by Ascend

POLIMID	PA 6, PA 6.6
SECOMID	PA 6, PA 6.6

ELIX POLYMERS | A member of Sinochem International

ELIX®	ABS, ABS+PC
ELIX®	PC+ABS
E-LOOP	Mechanical recycled ABS, ABS+PC and PC+ABS
E-LOOP	ABS made from certified raw materials

TRINSEO™

ALTUGLAS™	PMMA
APIGO™	TPO
API L™	TPC
APILON™ 52	TPU
APINAT™	Biodegradable TPC
MEGOL™	TPS-SEBS
NEOGOL™	OBC
RAPLAN™	TPS-SBS
TIVILON™	TPV

Our products

HYOSUNG CHEMICAL

POKETONE™	PK

TEIJIN Human Chemistry, Human Solutions

TEIJIN KASEI EUROPE B.V.

Multilon®	PC+ABS
Panlite®	PC

ZYPEEK

ZYPEEK	PEEK

SKYTECH second life polymers

Post-consumer recycled plastics	
Skylonitrile®	rABS
Skystyrene®	rPS

idemitsu

Xarec®	sPS

TORAY

SIVERAS®	LCP
TORELINA®	PPS

Our products

BIO-FED GREEN COMPOUNDS

AF-Eco®	Biodegradable and/or biobased colour, carbon black and additive masterbatches
M·BIOBASE®	Biomass-balanced PP
M·CYCLOSE®	Recycling Solutions
M·VERA®	Biodegradable and/or biobased polymers

AF-COLOR MASTERBATCHES

AF-Carbon®	Engineering carbon black masterbatches
AF-Clean®	Purging compounds
AF-Color®	Colour masterbatches
AF-Complex®	Additive masterbatches
AF-Eco®	Biodegradable and/or biobased colour, carbon black and additive masterbatches

FEDDEM COMPOUNDING LINES

FED-MTS line	Twin-screw extruders

Products and partners

Celanese
The chemistry inside innovation™

Amcel® (POM copolymers)

Properties
- Extremely tough (up to -40 °C)
- Extremely hard and stiff
- High heat distortion temperature (service temperatures up to +100 °C)
- Good sliding behaviour
- Easily processed

Features
- Natural or black coloured
- 3 different flowabilities
- Food approval grades

Ateva® G (EVA)

Properties
- Ethylene vinyl acetate
- Biocompatible (USP CL VI; ISO 10993)
- Approved for pharmaceutical and food applications
- Optically transparent
- Offers design flexibility
- Good tear and impact resistance
- Processes at low temperatures

Features
- 9 % vinyl acetate
- 18 % vinyl acetate (antioxidant)
- 28 % vinyl acetate (antioxidant/light flow)
- AT LDPE (high melt strength)
- Biobased[1] grades
- Medical grades (MT grades)

Celanex®, Celanex® Eco-B (PBT)

Properties
- Extremely hard and stiff
- Good creep behaviour
- High heat distortion temperatures, particularly in glass fibre reinforced grades (service temperatures to +140 °C)
- Favourable coefficient of friction and wear performance
- High dimensional stability (small coefficient of thermal expansion, low water absorption)
- Good electrical characteristics
- Good chemical resistance
- No environmental stress cracking
- Good weathering resistance
- Rapid crystallisation resulting in optimised cycle times
- Paintable
- Flame-retardant (UL 94 V0, some grades with 5 VA) with proper surface treatment

Features
- Glass fibre reinforced grades
- Glass bead reinforced grades
- Glass fibre reinforced grades with high-gloss surface
- Glass fibre/mineral reinforced grades
- UV-stabilised grades
- Standard and halogen-free grades with flame-retardant surface treatment (XFR types), listed UL 94 V0, partial 5 VA
- Special colours for laser marking
- MetalX metallic effect
- Recycled grades
- Biobased[1] grades
- Medical grades (MT grades)
- BPA free grades

Celstran® LFRT (long fibre reinforced thermoplastics)

Properties
- Long fibre reinforcement creates a fibre skeleton in the component which easily meets crash-test requirements
- Impact strength at least twice as high and notched impact strength two to three times higher than for short fibre compounds
- Mechanical values remain constant over a wide temperature range
- High heat distortion temperature
- Low creep, low warpage and shrinkage
- Standard fibre length: 10 mm

Features
- Polymer base: PP, PA, TPU, ABS, PPS, POM, PEEK, PBT (further matrix materials on request)
- Glass fibre reinforced grades: fibre content 20–60 %
- Carbon(C) fibre reinforced grades
- Aramide fibre reinforced grades
- Stainless steel fibre reinforced grades for electrical shielding

Products and partners

Celanese
The chemistry inside innovation™

Crastin®, Crastin® Eco-B (PBT)

Properties
- Extremely hard and stiff
- High dimensional stability (small coefficient of thermal expansion, low water absorption)
- High heat distortion temperatures
- Good weathering resistance
- Good electrical characteristics
- Good chemical resistance
- Good surface quality
- Flame-retardant (V0) with proper surface treatment
- Easy processing

Features
- Glass fibre reinforced grades (up to 50 %)
- Glass bead reinforced grades
- Hydrolysis-stabilised grades
- Low-distortion grades
- Orange coloured grades for HV connectors and busbars
- Food contact grades
- Standard and halogen-free grades with flame-retardant
- UV-stabilised grades
- Special colours for laser marking
- Biobased[1] grades

Coolpoly® (thermally conductive compounds)

Properties
- Thermal conductivity from 1 to 40 W/m K
- Efficient heat dissipation and cooling
- Avoidance of heat accumulation
- Extends the service life of parts and components
- UL listed with UL 94 V0 (product-dependent)

Features
- PA 6, PPS, LCP, TPE
- Thermally conductive and electrically insulating grades (1–10 W/m K)
- Thermally and electrically conductive grades (2–40 W/m K)

Elvamide® (LCPA)

Properties
- High abrasion resistance
- High impact strength
- High tensile strength
- Natural gliding properties
- Resistant to oils, solvents and petrol
- Melting point: 115 °C - 160 °C
- Excellent adhesion to nylon yarn
- Low melt processing temperature
- High elongation

Features
- Improved Gel Resistance in Solutions
- High Viscosity
- Ability to cross-link with thermosetting resins
- Durability

Forflex® (TPO)

Properties
- Thermoplastic polyolefin
- Outstanding elastic properties at low temperatures
- Good weather resistance
- Low density, from 0.89 g/cm^3
- Recyclable

Features
- Hardness ratings from 65 Shore A to 60 Shore D
- Injection moulding grades
- Extrusion grades
- Grades with food safety approval

Fortron® (PPS)

Properties
- Linear PPS
- Service temperatures up to +240 °C
- Suitable for lead-free soldering
- Inherently flame-retardant (UL 94 V0, some grades with 5 VA)
- Very good resistance to chemicals and oxidation
- Extreme stiffness and strength
- Minimal water absorption
- Very little creep, even at elevated temperatures

Features
- Non-reinforced grades (powder and pellets)
- Glass fibre reinforced grades (pellets)
- Glass fibre/mineral reinforced grades (pellets)
- Grades for food and drinking water applications
- Blow moulding grades
- Film and fibre grades
- Flexible PPS
- Medical grades (MT grades)

Products and partners

Celanese
The chemistry inside innovation™

Gur®, Gur® Eco-B (PE-UHMW)

Properties
- Polyethylene, ultra-high molecular weight
- Exceptionally high notched impact strength
- High energy absorption at high stress rate
- Excellent slip properties and very low wear
- Very high chemical resistance to acids and alkalies
- Highly resistant to environmental stress cracking
- Very good noise- damping properties
- Can be used in a variety of applications due to wide service temperature range, -200 °C to +90 °C

Features
- Modified grades and special purpose formulations for pressureless sintering and compression moulding
- Heat conductive grade
- Grades with additives (such as micro-powder)
- Biobased[1] grades

Hostaform®, Hostaform® Eco-B, Hostaform® Eco-C, Kepital®, Celcon® (POM copolymers for increased requirements)

Properties
- Extremely tough (up to -40 °C)
- Extremely hard and stiff
- High heat distortion temperature (service temperatures up to +100 °C)
- Excellent spring characteristics
- Favourable electric and dielectric behaviour
- Very good coefficient of friction
- Low tendency for environmental stress cracking
- Good chemical resistance to e.g. fuels, solvents and strong alkalies
- Low water absorption
- Easily processed
- Low CO_2 footprint, which can be declared for Hostaform ECO-B

Features
- Standard grades
- Easy-flowing grades
- High-strength grades
- Glass fibre reinforced and glass bead reinforced grades
- Grades with improved coefficient of friction
- Impact-strength-modified grades (S grades)
- Emission-optimised grades (XAP grades)
- Grades for use in the food industry or drinking water applications
- Grades with superior resistance to corrosive media such as highly active detergents or chlorinated water
- Hot-diesel-fuel-resistant grades (XF grades)
- Available in a wide variety of colours
- Special colours for laser marking
- UV-stabilised grades
- Electrically conductive grades (EC grades)
- Biobased[1] grades
- Medical grades (MT grades)

Impet® (PET)

Properties
- Exceeding stiffness and strength
- Good creep behaviour
- Paintable surface
- High heat distortion temperatures (HDT/A up to +228 °C)
- Service temperature up to +150 °C
- Favourable coefficient of friction
- Very good electric/dielectric properties
- High chemical resistance and weathering stability

Features
- Glass fibre reinforced grades
- Custom colour matching
- Recycled grades

Products and partners

Celanese
The chemistry inside innovation™

Laprene® (TPS-SEBS)

Properties
- Styrene-ethylene-butylene-styrene basis
- Service temperature from -50 °C to +120 °C
- Excellent UV, ozone and weather resistance
- Excellent resistance to bases, alcohols and acids
- High resilience within a large temperature range
- Recyclable

Features
- Hardness ratings from 2 Shore A to 60 Shore D
- Injection moulding grades
- Extrusion grades
- Transparent and translucent grades

Polifor® (PP)

Properties
- High stiffness and abrasion resistance
- Excellent chemical resistance
- Low moisture absorption

Features
- Non-reinforced and reinforced polypropylene compounds
- Flame-retardant grades

Rynite® (PET)

Properties
- Extremely hard, rigid, and durable
- Excellent resistance to creep deformation
- Surface suitable for painting
- High heat distortion temperature (HDT/A) up to 228 °C
- Operational temperature range up to 150 °C
- Low friction with exceptional wear resistance
- Outstanding electrical insulation and dielectric characteristics
- High resistance to chemicals and exceptional weathering stability

Features
- Flame-retardant
- Heat stabilised or stable to heat
- Glass reinforced grades
- Hydrolysis resistant
- U.V. stabilised or stable to light
- Low warpage
- Mineral reinforced grades
- Ultrasonic Weldable

Selar® (PA 6I/6T)

Properties
- Excellent gas barrier (O_2, N_2, CO_2) especially at high humidity and refrigerated conditions
- Very good moisture barrier
- Ability to enhance the clarity, impact and thermoformability of Nylon 6 film
- Resistance to UV
- Resistance to grease/oil and a wide range of chemicals

Features
- Transparent
- Food contact compliance
- Flavor preservation
- Excellent processability

Sofprene® (TPS-SBS)

Properties
- Block copolymer styrene-butadiene-styrene
- Service temperature from -50 °C to +60 °C
- Excellent resistance to various chemical substances, such as bases, acids, alcohols, detergents and aqueous solutions
- Good abrasion resistance
- High resilience within a large temperature range
- Recyclable

Features
- Hardness ratings from 25 Shore A to 40 Shore D
- Injection moulding grades
- Extrusion grades, from 40 Shore D
- Transparent grades

Products and partners

Celanese
The chemistry inside innovation™

Talcoprene (PP/TALC)

Properties
- Good dimensional stability
- Good mechanical properties

Features
- Talcum reinforced grades

Tecnoprene® (PP/GF)

Properties
- High stiffness and mechanical strength
- High tensile strength
- Increased heat resistance

Features
- Glass fibre reinforced grades
- Glass fibre/mineral reinforced grades
- Elastomer modified grades
- Grades for contact with food

Thermx® (PCT)

Properties
- High-temperature-resistant polyester (based on polycyclohexylene dimethylene terephthalate chemistry)
- Chemical resistance to auto fluids
- Excellent temperature resistance
- Hydrolysis resistance better then PET and PBT
- Negligible moisture effect
- Dimensional stability
- Melting temperature +290 °C
- Same shrinkage as PBT
- Excellent colourability
- USCAR classification (class IV)
- Suitable for lead-free soldering

Features
- Glass fibre reinforced and/or mineral filled grades
- Flame-retardant grades

Vectra® (LCP)

Properties
- Service temperatures up to +240 °C, short-term up to +340 °C
- Very low melt viscosity
- Extremely close tolerances possible (up to tolerance class T6)
- Very low heat of fusion (extremely short cycle times possible)
- Flash-free injection moulding
- Very high tensile strength (to 200 MPa) and modulus of elasticity (to 30,000 MPa)
- High impact strength
- Very small linear coefficient of thermal expansion, comparable to that of steel and ceramic
- Inherently flame-retardant (UL 94 V0, some grades with 5 VA)
- Very good resistance to chemicals and oxidation
- Minimal water absorption

Features
- Glass fibre reinforced grades
- Carbon fibre reinforced grades
- Fibre/filler modified grades
- Mineral and graphite filled grades
- Electroplating and conductive grades
- Extrusion grades
- Medical grades (MT grades)

Products and partners

Celanese
The chemistry inside innovation™

Zenite® (LCP)

Properties
- Service temperatures up to +240 °C, short-term up to +340 °C
- Very low melt viscosity
- Extremely close tolerances possible (up to tolerance class T6)
- Very low heat of fusion (extremely short cycle times possible)
- Flash-free injection moulding
- Very high tensile strength (to 200 MPa) and modulus of elasticity (to 30,000 MPa)
- High impact strength
- Very small linear coefficient of thermal expansion, comparable to that of steel and ceramic
- Inherently flame-retardant (UL 94 V0, some grades with 5 VA)
- Very good resistance to chemicals and oxidation
- Minimal water absorption

Features
- Glass fibre reinforced grades
- Carbon fibre reinforced grades
- Fibre/filler modified grades
- Mineral and graphite filled grades
- Electroplating and conductive grades
- Extrusion grades

Zytel® HTN (PPA)

Properties
- Low effect of moisture
- Excellent retention of properties
- Good dimensional stability
- High temperature resistance (up to 310°C)
- High glass transition temperature (80°C to 140°C)
- Low coefficient of thermal expansion (reinforced grades)
- Chemical resistance to glycol, motor, gear and transformer oils

Features
- Increased electrical conductivity
- Anti-static
- Heat stabilised or stable to heat
- Flame retardant
- Hydrolysis resistant
- Ultrasonic weldable
- Laser weldable
- Laser markable
- Low warpage

Zytel® LCPA (PA 10.10, PA 6.10, PA 6.12)

Properties
- High temperature resistance
- Chemical resistance (salt, fuels, oils)
- Excellent hydrolysis resistance
- High rigidity and strength
- Good flexibility and impact strength
- Crack resistance even under load
- Low fuel and gas permeability

Features
- Static dissipative
- High impact or impact modified
- Stable to heat, weather and light
- Electrical Friendly
- Bio-Content
- Medical

Products and partners

ASCEND PERFORMANCE MATERIALS

HiDura® (PA 6.10, PA 6.12, PA-HT)

Properties
- Very good chemical resistance
- Hydrolysis resistance
- High low-temperature impact strength
- Good tribological properties
- Very good barrier properties
- Very good weathering resistance
- Dimensional stability
- Ductile
- High heat stability

Features
- Non-reinforced
- Glass fibre reinforced grades up to 30 %
- Impact-modified grades

ReDefyne (recyclates PA 6.6-, PA 6 compounds)

Properties
- Up to 100 % from pre- and post-consumer recyclatese
- Good and consistent quality
- CO_2 footprint data

Features
- Impact-modified grades
- Glass fibre reinforced grades up to 50 %
- Available in black

Starflam® (flame-retardant compounds)

Properties
- Very good wear resistance
- Very good impact strength
- Heat stabilised
- Low corrosion
- Very good insulation properties
- Very good flowability
- Halogen-free and free of red phosphorus
- Cross-linked types dimensionally stable at >300 °C

Features
- Non-reinforced and reinforced grades PA 6, PA 6.6, PA 6.6/PA 6
- UL 94 listed (up to 5VA)
- Glass fibre reinforced grades up to 45 %
- Mineral reinforced grades up to 40 %
- Electrically neutral grades
- Radiation cross-linkable grades
- Customised colour settings

Vydyne® (PA 6.6)

Properties
- High strength and stiffness
- High thermal resistance
- Very good impact strength
- Low creep tendency
- Good chemical resistance
- High surface quality
- Easy to process
- Good colourability
- Good tribological properties

Features
- Non-reinforced
- Impact-modified grades
- Heat-stabilised grades
- Hydrolysis-stabilised grades
- Grades with very good long-term ageing resistance
- Glass fibre reinforced up to 50 %
- Glass bead reinforced up to 50 %
- Carbon fibre reinforced up to 40 %
- UV-stabilised and weather-resistant grades
- Grades for extrusion (also with food approval)

Vydyne® B (PA 6) | POLIMID (PA 6, PA 6.6)

Properties
- Easy to process
- High strength and stiffness
- Very good impact strength
- Low creep tendency
- Good colourability
- Excellent surface finish

Features
- Impact-modified grades
- Glass fibre reinforced grades up to 60 %
- Glass bead reinforced grades up to 50 %
- Carbon fibre reinforced grades up to 40 %
- UV-stabilised and weather-resistant grades
- Customised colour settings

Products and partners

POLIMID (PA 6, PA 6.6)

Properties
- Easy processing
- High strength and stiffness
- Excellent impact resistance
- Low creep behavior
- Good dyeability

Features
- Unreinforced grades
- Impact-modified grades
- Heat-stabilised grades
- Glass fibre-reinforced grades up to 60%
- Glass bead-reinforced grades up to 50%
- Carbon fibre-reinforced grades up to 40%
- UV-stabilised and weather-resistant
- Food-contact compliant grades
- Custom colour formulations
- Laser-markable grades

SECOMID (PA 6, PA 6.6)

Properties
- Cost-effective alternative
- Easy processing
- High strength and stiffness
- Excellent impact resistance
- Low creep behavior

Features
- Unreinforced grades
- Impact-modified grades
- Heat-stabilised grades
- Glass fibre-reinforced grades up to 50%
- UV-stabilised and weather-resistant
- Custom colour formulations

ELIX® (ABS, ABS+PC)

Properties
- Emulsion ABS
- Opaque
- High gloss
- High impact strength and notched impact strength
- High stiffness
- Good flowability
- Heat deflection temperature up to +113 °C to Vicat B50
- Excellent dimensional stability
- Excelent paintability
- UL listed with UL 94 HB (product dependent)

Features
- Automotive grades
- UV-stabilised grades
- Emission-reduced grades
- Types with stick-slip effect (anti squeak)
- Electroplating grades
- Antistatic grades
- Coloured versions according to RAL, OEM colours etc.
- Coloured versions with less gloss
- White coloured grades with high light reflection and light blocking
- Grades with food approval for food contact applications, toys and cosmetics containers

ELIX® (PC+ABS)

Properties
- High flow
- High heat distortion temperature
- Very high impact, also at -40 °C
- UV-stabilised
- Low emission
- Excellent processability and paintability

Features
- Injection moulding grades with Vicat B120 for +120 °C and +130 °C
- Standard black
- Coloured versions according to RAL, OEM colours etc.

Products and partners

ELIX POLYMERS | A member of Sinochem International

E-LOOP (mechanical recycled ABS, ABS+PC, PC+ABS)

Properties
- Recycled material used in the formulation
- Reduced CO_2 footprint
- Equivalent properties like the comparable Prime versions
- High heat resistance
- Good flowability

Features
- Injection moulding grades
- Automotive grades
- Non-reinforced grade
- Low emission grade
- Standard black and on request in BMW black, Daimler black etc.

E-LOOP (ABS made from certified raw materials)

Properties
- Contains recycled and bio-based raw materials
- Based on the mass balance approach
- Identical properties to equivalent virgin grades

Features
- Injection moulding grades
- Electroplating grades
- Unreinforced grades
- Standard black, natural, and colored grades

TRINSEO

ALTUGLAS™ (PMMA)

Properties
- High transparency and brilliance
- Excellent UV and weather resistance
- High surface hardness and abrasion resistance
- Polishable surface
- High rigidity and good mechanical properties
- Good heat resistance and chemical resistance

Features
- Standard grades
- Impact-modified grades
- Grades with improved chemical resistance
- Heat-resistant grades
- Frost, matt or special colourable grades
- Light-scattering grades
- LPL grades (Long Path Length)
- R-Life (reduced carbon footprint, chemically or mechanically mechanically recycled)

APIGO™ (TPO)

Properties
- Thermoplastic polyolefin
- Service temperature from -50 °C to +90 °C
- Good tear resistance
- Very good low-temperature flexibility
- Good resistance to acids and alkalis
- Halogen-free

Features
- Hardness ratings from 20 Shore A to 60 Shore D
- Injection moulding grades
- Extrusion grades
- Custom formulations for airbag covers
- Food approval grades available (EU 10/2011, FDA)
- Suitable for the substitution of soft PVC
- Biobased[1] grades **(APIGO™ BIO)** and grades based on recycled material **(APIGO™ ECO)**

API L™ (TPC)

Properties
- Thermoplastic copolyester elastomer (TPC)
- Service temperature from -50 °C to +120 °C
- High fatigue strength, elasticity and stiffness, even at low temperatures
- Maintains properties even at high temperatures
- Good chemical resistance (also against oils and solvents)

Features
- Hardness ratings from 25 Shore A to 72 Shore D
- Injection moulding grades
- Extrusion grades
- Food approval grades available (EU 10/2011, FDA)

Products and partners

APILON™ 52 (TPU)

Properties
- Thermoplastic polyurethane elastomer
- Service temperature of TPU ester from -30 °C to +100 °C
- Service temperature of TPU ether from -50 °C to +90 °C
- Excellent wear and abrasion resistance
- Very good low-temperature flexibility
- High long-term stability
- High resistance to oils, greases, oxygen and ozone

Features
- Hardness ratings from 40 Shore A to 72 Shore D
- Injection moulding grades
- Extrusion grades
- Grades with increased transparency
- Haptic-optimised grades with a rubber-like and matt surface
- Adhesion-modified grades for a wide range of polymers (polar as well as non-polar) available
- Biobased[1] grades (**APILON™ 52 BIO**) and recycled-based grades (**APILON™ 52 ECO**)

APINAT™ (biodegradable[2] TPC)

Properties
- TPC compounds – biodegradable[2] according to EN 13432
- Good low-temperature flexibility
- High thermostability
- Easy processing
- Can be coloured with biodegradable[2] colour masterbatches

Features
- Hardness ratings from 60 Shore A to 78 Shore D
- Food approval grades available (EU 10/2011, FDA)
- Biobased[1] grades from hardness 30 Shore D
- Injection moulding grades
- Extrusion grades
- Blow moulding grades

MEGOL™ (TPS-SEBS)

Properties
- Styrene/ethylene-butylene/styrene block copolymer
- Service temperature from -50 °C to +120 °C
- Excellent soft-touch properties
- Good compression set
- Excellent long-term stability (against UV, ozone and weathering)

Features
- Hardness ratings from 5 Shore A to 60 Shore D
- Injection moulding grades
- Extrusion grades
- >300 active colours and custom colour settings
- Customized solutions: A wide variety of modified MEGOL™ grades available.
- Special MED grades for healthcare applications
- Biobased[1] grades (**MEGOL™ BIO**) and recycled-based grades (**MEGOL™ ECO**)

NEOGOL™ (OBC)

Properties
- Olefin block copolymer
- Service temperature from -50 °C to +80 °C
- Good tear resistance
- Chemical resistance to acids, alkalis, detergents and aqueous solutions
- Halogen-free
- As an alternative for TPE when no specific physical-mechanical properties are required

Features
- Hardness ratings from 20 Shore A to 60 Shore D
- Injection moulding grades
- Suitable for substitution of PVC

Products and partners

TRINSEO

RAPLAN™ (TPS-SBS)

Properties
- Styrene/butadiene block copolymer
- Service temperature from -50 °C to +60 °C
- Very good low-temperature flexibility
- Good resistance to acids and alkalis
- High abrasion and slip resistance
- Halogen-free, sterilisable and resistant against a wide range of cleaning agents

Features
- Hardness ratings from 20 Shore A to 50 Shore D
- Injection moulding grades
- Extrusion grades
- Food approval grades available (EU 10/2011, FDA)
- Wide range of different viscosities available
- Suitable for the substitution of rigid PVC

TIVILON™ (TPV)

Properties
- Dynamically vulcanised thermoplastic elastomer (TPV)
- Service temperature from -40 °C to +130 °C
- Very good mechanical properties
- Good compression set over a wide temperature range
- High resistance to UV and heat ageing
- Easier processing (compared to conventional TPVs)
- Very good colourability

Features
- Hardness ratings from 30 Shore A to 60 Shore D
- Injection moulding grades
- Extrusion grades

HYOSUNG CHEMICAL

POKETONE™ (PK)

Properties
- High impact strength
- Very good resilience
- High dimensional stability
- Very good resistance to wear
- Good tribological properties
- Very good hydrolysis restistance
- High chemical resistance
- Extraordinary barrier effect against fuel and oxygen
- UL listed (product-dependent)

Features
- Non-reinforced grades
- Glass fibre reinforced grades
- Flame-retardant grades
- Tribological modified grades
- Grades for food and drinking water applications

Products and partners

TEIJIN Human Chemistry, Human Solutions

TEIJIN KASEI EUROPE B.V.

Multilon® (PC+ABS)

Properties
- High impact strength, Charpy notched impact strength (+23 °C) 50-75 kJ/m²
- Excellent flow behaviour, MVR (+260 °C/5 kg) up to 28 cm³/10 min
- High heat deflection temperature up to 128 °C according to Vicat B50
- Excellent processability and paintability

Features
Unfilled PC+ABS blends for automotive interior applications:
- High heat resistance, easy flowing
- Medium heat resistance, easy flowing
- Low density, low gloss

Flame-retardant PC+ABS blends:
- V0 (UL 94 listed), UV stabilised

Panlite® (PC)

Properties
- High strength, stiffness and hardness
- Excellent impact strength
- High heat deflection temperature
- Good electrical properties
- High optical quality
- UL listed (product-dependent)

Features
- Standard PC, colourless
- Standard PC, UV-stabilised (UL 746C f1), colourless
- Light-diffusing, (UL 94 V2 listed), UV stabilised (UL 746C f1)w, white
- Flame retardant (UL 94 V0 listed), light-diffusing, UV stabilised (UL 746C f1), white
- Flame retardant (UL 94 V0 listed), UV stabilised (UL 746C f1), coloured

ZYPEEK

ZYPEEK (PEEK)

Properties
- Exceptionally high temperature resistance
- Excellent mechanical properties
- Wear resistance and self-lubrication
- Excellent resistance to chemicals and hydrolysis
- Electrical insulation properties
- High flame retardancy

Features
- Injection moulding and extrusion grades
- Various reinforcement systems available
- Certification for various applications and markets
- UL listing for various materials
- Custom product development

SKYTECH second life polymers

Post-consumer recycled plastics (rABS, rPS)

Properties
- 100 % post-consumer* recyclate
- Produced using a patented process (triboelectricity)
- Quality level comparable to new compounds
- Consistent quality from batch to batch
- Lower CO_2 footprint compared to new compounds
- Compliant with RoHS norms
- Verry good processability
- (rABS): High heat deflection temperature up to 103 °C according to Vicat B50

*Recycled plastics from household or industrial waste

Features
Skylonitrile® (rABS):
- Izod impact strength (KJ/m², 23°, ISO 180): 10-12; 12-14; 14-16;16-18
- Products with MFI range (g/10 min., ISO 1133, 220°/10 kG.): 10-55

Skystyrene® (rPS):
- Izod impact strength (KJ/m², 23°, ISO 180): 6-8; 8-10
- Products with MFI range (g/10 min. ISO 1133, 220°/5 kG.): 5-7
- Available in black, grey and white

Products and partners

idemitsu

Xarec® (sPS)

Properties
- Extremely hydrolytically stable
- Low warpage
- Low specific weight
- High dimensional stability
- Very good electrical characteristics
- High continuous service temperature

Features
- Glass fibre reinforced grades (up to 40 %)
- Flame-retardant grades with UL listing
- KTW-compliant grades (for use in hot-water and cold-water applications)
- FDA-compliant grades

TORAY

SIVERAS® (LCP)

Properties
- Excellent toughness in thin-walled mouldings, by higher molecular orientation
- Excellent thermal resistance (more than +250 °C)
- Excellent flowability
- Lower warpage in reflow soldering, due to lower-pressure molding
- Excellent attenuate character and high modulus

Features
- Glass fibre reinforced grades
- Glass fibre and inorganic filler reinforced grades (GF and MD)
- High valued grades (specialised application)

TORELINA® (PPS)

Properties
- Excellent long-term heat resistance (UL temperature index: +200 °C to +240 °C, UL file No. E41797)
- Low mould shrinkage
- Low linear thermal expansion
- Low water absorption
- Excellent dimensional stability even when used under high-temperature, high-humidity conditions
- Excellent chemical resistance
- High strength
- High rigidity
- Low degradation characteristic even in high temperature conditions
- Excellent fatigue endurance and creep resistance
- Inherent self-extinguishing – passes UL 94 V-0 standard without adding flame-retardant
- Excellent electric characteristics in high-temperature, high-humidity and high-frequency conditions
- Good flow property

Features
- Cross-link grades
- Linear grades
- Various grades of products from base polymer to compounds

Products and partners

BIO-FED
GREEN COMPOUNDS

AF-Eco® (biodegradable[2] and/or biobased[1] masterbatches)

Properties
- Colour, carbon black and additive masterbatches available
- Colour masterbatches certified in accordance with OK compost INDUSTRIAL (EN 13432)
- Excellent dispersion
- Free of heavy metals and phthalates

Features
- AF-Eco® colour masterbatches
- AF-Eco® Carbon black masterbatches
- AF-Eco® additive masterbatches
  - Lubricant masterbatches
  - Anti-block masterbatches
  - Blowing agent masterbatches

M·BIOBASE® (biomass-balanced PP)

Properties
- Compounds made from biomass-balanced polypropylene
- Raw material sources for the PP are vegetable oil and fat waste
- Reduced CO_2 footprint
- Certified according to ISCC Plus

Features
- PP Homo (PPH)
- PP Copo (PPC)
- Glass fibre reinforced grades
- Wood fibre reinforced grades

M·CYCLOSE® (recycling solutions)

Eigenschaften
- Up to 100 % post-consumer and/or post-industrial solutions
- Customised grades and bespoke compounds available
- Cost savings
- Reduced carbon footprint compared to virgin material
- Good processability and colourability with suitable masterbatches

Features
- PE recyclates (polyethylene)
- PP recyclates (polypropylene)
- ABS recyclates (acrylonitrile butadiene styrene)
- Bespoke compounds: Customised solutions based on PCR or PIR available

M·VERA® (biodegradable[2] and/or biobased[1] polymers)

Properties
- Based on different levels of renewable raw materials and/or biobased carbon
- Biodegradable in various environments, also industrially compostable
- Can be coloured individually - for example with the biopolymer-based AF-Eco® masterbatches

Features
- GP series for universal use (e.g. injection molding, extrusion and thermoforming)
- A series for agricultural films
- B series for bag applications

Products and partners

AF-COLOR MASTERBATCHES

AF-Color® (colour masterbatches)

Properties
Custom masterbatches according to customer requirements.
In addition, the following effects are possible:
- Metallic effects
- Mother-of-pearl effects
- Iridescent effect
- Luminescence (fluorescence, phosphorescence)
- Thermochromism
- Photochromism

Features
Standard for colouring the following based on grade-compliance:
- PE, PP
- PA
- POM
- PBT, PET
- Styrene copolymers
- As well as other engineering polymers

AF-Carbon® (engineering carbon black masterbatches)

Properties
Engineering carbon black masterbatch based on different pigment types:
- Carbon black
- Lamp black
- Organic and inorganic black colouration
- Nigrosine
- NIR-reflecting preparations

Features
Standard for colouring the following based on grade-compliance:
- PE, PP
- PA
- POM
- PBT, PET
- Styrene copolymers
- As well as other engineering polymers

AF-Complex® (additive masterbatches)

Properties
Customised additive masterbatches according to customer requirements.
- UV stabilisers
- Static inhibitors
- Lubricants
- Laser additives
- Antioxidants/heat stabilisers
- Endothermic blowing agents
- Further additive combinations available on request

Features
Standard for colouring the following based on grade-compliance:
- PE, PP
- PA
- POM
- PBT, PET
- Styrene copolymers
- As well as other engineering polymers

AF-Clean® (purging compounds)

Properties
Purging compounds for all thermoplastics in injection moulding, extrusion and blow moulding.

Features
- AF-Clean® Basic for temperature range from +160 °C to +240 °C
- AF-Clean® HT for temperature range from +240 °C to +380 °C

Products and partners

FEDDEM COMPOUNDING LINES

FED-MTS line (twin-screw extruders)

With the **FED-MTS** models, the available torque and the conveying volumes of the screw elements are specially adapted to meet the requirements of compounding engineering plastics and masterbatches.

Features

- Unique screw geometry
- Gentle process technology
- Quick changeover of materials
- High flexibility, easy to re-configure
- High output rates at lower temperatures
- Patented die plate design
- Variable process lengths up to 42 L/D
- Minimising shear stress
- Unique side feeding and venting
- Highest quality products
- Able to provide full turnkey solutions

Sustainable alternatives possible

[1] Polymers based on renewable raw materials in varying proportions.

[2] Compounds that can be added to industrial composting processes and, in some cases, to household compost. The criteria used for the assessment are subject to regular inspection by recognised bodies commissioned by us. The corresponding results are documented by the issue of appropriate certificates. Further information on this at https://bio-fed.com/certifications.

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