



# Engineering Thermoplastics

## Products and Grades

Makrolon<sup>®</sup>, Apec<sup>®</sup>, Bayblend<sup>®</sup>, Makroblend<sup>®</sup>





## **The right material – the key to successful design engineering**

### **Wide range of products**

We are one of the world's leading manufacturers of engineering thermoplastics.

We want your molding to have a high degree of reliability, be fit for purpose and economical to manufacture. We offer you an extensive range of materials with high-quality basic and specialty grades customized to the requirements of each individual application. If you need a new grade of material for an innovative application, we will develop it with you.

### **Available worldwide**

We manufacture in all the world's major markets. Our materials are supplied to a consistently high standard of quality all over the world and our customer services are always close at hand. We provide assistance in selecting the material best suited to the application, in design engineering and tool construction, in material and component testing, in matters of logistics and ultimately in production start-up too.

### **In all colors**

We offer our products in customized colors and provide an extensive range of coloring services. In our Color Competence and Design Centers (CCDC), which are spread across the world and linked together, we match shades for you and even produce colored granule samples in small quantities.

**Makrolon®**

Polycarbonate

04 – 09

**Apec®**

Copolycarbonate

10 – 11

**Bayblend®**

Blends of polycarbonate and  
ABS or rubber modified SAN

12 – 15

**Makroblend®**

Blends of polycarbonate  
and PBT or PET

16 – 17



Makrolon® is the brand name for our polycarbonate. Compared with other thermoplastics, this amorphous material has a unique set of properties. Its special features are its high transparency, heat resistance, toughness and dimensional stability, a high creep modulus and good electrical insulation properties. Glass fiber reinforced Makrolon® has particularly high stiffness and is therefore very dimensionally stable.

## Products in the range

- **General purpose grades**
- **Impact modified grades**
- **Flame retardant grades**
- **PC/PTFE grade**
- **Glass fiber (milled fiber) reinforced grades**
- **Glass fiber (normal fiber) reinforced grades**
- **Grades for special application**

## Characteristic features

### Color

Clear and transparent like glass

### Toughness

Without notching, no failure; high notched impact strength

### Dimensional accuracy and stability

Exceptionally high, since it undergoes no change in dimensions due to water absorption and post shrinkage; high creep modulus, high heat resistance, isotropic behavior

### Heat resistance

Glass transition temperature up to 148 °C

### Flame retardance

Flammability classification up to UL 94V0/1.5 mm and UL 94-5VA/3.0 mm; maximum temperature in glow wire test up to 960 °C

### Electrical insulation

Good: volume resistivity  $10^{14}$  Ohm · m, dielectric strength up to 36 kV/mm (1 mm wall thickness)

## Processing and fabrication

### Processing the raw material

Injection molding, extrusion, extrusion blow molding, injection blow molding and rotomolding

### Secondary processing

Thermoforming, e.g. by bending and stamping; cold forming, e.g. by high-pressure molding and folding

### Machining

Sawing, drilling, turning, milling, planing, filing, tapping, die-cutting and cutting

### Joining

Screwing, bonding and welding

### Finishing

Painting, printing, high-vacuum metallizing and laser marking

## Main areas of application

### Automotive

### Construction

### Electrical engineering/electronics

### Domestic

### Lighting engineering

### Medical devices\*

### Optical

### Optical storage media

### Safety items

### Packaging

\* See disclaimer, page 19.

For more information: [www.plastics.covestro.com](http://www.plastics.covestro.com)



## ■ General purpose grades

### Low viscosity

#### Makrolon® 2205

MVR (300 °C/1.2 kg) 34 cm<sup>3</sup>/10 min; general purpose; low viscosity; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

#### Makrolon® 2207

MVR (300 °C/1.2 kg) 35 cm<sup>3</sup>/10 min; general purpose; low viscosity; UV stabilized; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

#### Makrolon® 2405

MVR (300 °C/1.2 kg) 19 cm<sup>3</sup>/10 min; general purpose; low viscosity; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

#### Makrolon® 2407

MVR (300 °C/1.2 kg) 19 cm<sup>3</sup>/10 min; general purpose; low viscosity; UV stabilized; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

### Medium viscosity

#### Makrolon® 2605

MVR (300 °C/1.2 kg) 12 cm<sup>3</sup>/10 min; general purpose; medium viscosity; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

#### Makrolon® 2607

MVR (300 °C/1.2 kg) 12 cm<sup>3</sup>/10 min; general purpose; medium viscosity; UV stabilized; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

#### Makrolon® 2805

MVR (300 °C/1.2 kg) 9.0 cm<sup>3</sup>/10 min; general purpose; medium viscosity; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

#### Makrolon® 2807

MVR (300 °C/1.2 kg) 9.0 cm<sup>3</sup>/10 min; general purpose; medium viscosity; UV stabilized; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

### High viscosity

#### Makrolon® 3105

MVR (300 °C/1.2 kg) 6.0 cm<sup>3</sup>/10 min; general purpose; high viscosity; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

#### Makrolon® 3107

MVR (300 °C/1.2 kg) 6.0 cm<sup>3</sup>/10 min; general purpose; high viscosity; UV stabilized; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

## ■ Impact modified grades

### Low viscosity

#### Makrolon® 1260

MVR (300 °C/1.2 kg) 34 cm<sup>3</sup>/10 min; impact modified; low viscosity; easy release; injection molding – melt temperature 280–320 °C; available in light colors only

### Medium viscosity

#### Makrolon® 1248

MVR (300 °C/1.2 kg) 7.0 cm<sup>3</sup>/10 min; food contact quality; medium viscosity; impact modified; injection molding – melt temperature 280–320 °C; available in light colors only

#### Makrolon® 1837

MVR (300 °C/1.2 kg) 11 cm<sup>3</sup>/10 min; impact modified; medium viscosity; easy release; injection molding – melt temperature 280–320 °C; available in opaque colors only





## ■ Flame retardant grades

### Low viscosity

#### Makrolon® 2467

MVR (300 °C/1.2 kg) 19 cm<sup>3</sup>/10 min; flame retardant; UL 94V-2/1.5 mm and 3.0 mm; low viscosity; UV stabilized; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

#### Makrolon® 6165X

MVR (300 °C/1.2 kg) 28 cm<sup>3</sup>/10 min; flame retardant; UL 94V-0/1.2 mm; low viscosity; easy release; injection molding – melt temperature 280–320 °C; available in opaque colors only; LCD TV frame

#### Makrolon® 6265X

MVR (300 °C/1.2 kg) 19 cm<sup>3</sup>/10 min; flame retardant; UL 94V-0/1.5 mm; low viscosity; easy release; injection molding – melt temperature 280–320 °C; available in opaque colors only

#### Makrolon® 6267X

MVR (300 °C/1.2 kg) 19 cm<sup>3</sup>/10 min; flame retardant; UL 94V-0/1.5 mm; low viscosity; UV stabilized; easy release; injection molding – melt temperature 280–320 °C; available in opaque colors only

#### Makrolon® FR6002

MVR (300 °C/1.2 kg) 17 cm<sup>3</sup>/10 min; flame retardant; low viscosity; easy release; injection molding – melt temperature 280 °C

### Medium viscosity

#### Makrolon® 2665

MVR (300 °C/1.2 kg) 12 cm<sup>3</sup>/10 min; flame retardancy; UL 94V-2/1.5 mm and 3.0 mm; medium viscosity; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

#### Makrolon® 2865

MVR (300 °C/1.2 kg) 10 cm<sup>3</sup>/10 min; flame retardant; UL 94V-2/1.5 mm and 3.0 mm; medium viscosity; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

#### Makrolon® 6485

MVR (300 °C/1.2 kg) 9.0 cm<sup>3</sup>/10 min; flame retardant; UL 94V-0/1.5 mm and 5VA/3.0 mm; medium viscosity; easy release; injection molding – melt temperature 280–320 °C; available in opaque colors only



#### Makrolon® 6487

MVR (300 °C/1.2 kg) 9.0 cm<sup>3</sup>/10 min; flame retardant; UL 94V-0/1.5 mm and 5VA/3.0 mm; medium viscosity; UV stabilized; easy release; injection molding – melt temperature 280–320 °C; available in opaque colors only

#### Makrolon® 6555

MVR (300 °C/1.2 kg) 10 cm<sup>3</sup>/10 min; flame retardant; UL 94V-0/3.0 mm; medium viscosity; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

#### Makrolon® 6557

MVR (300 °C/1.2 kg) 10 cm<sup>3</sup>/10 min; flame retardant; UL 94V-0/3.0 mm; medium viscosity; UV stabilized; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

### High viscosity, branched

#### Makrolon® 6717

MVR (300 °C/1.2 kg) 3.0 cm<sup>3</sup>/10 min; flame retardant; UL 94V-0/2.0 mm; high viscosity; branched; UV stabilized; easy release; injection molding – melt temperature 280–320 °C; extrusion; available in transparent, translucent and opaque colors

### ■ PC/PTFE grade

#### Makrolon® 1954

MVR (300 °C/1.2 kg) 18 cm<sup>3</sup>/10 min; low viscosity; UV stabilized; improved friction characteristics; injection molding – melt temperature 280–320 °C; available in opaque colors only; housing- and operating parts; sliding elements

### ■ Glass fiber (milled fiber) reinforced grades

#### 20 % glass fiber reinforced

##### Makrolon® 8025

MVR (300 °C/1.2 kg) 6.0 cm<sup>3</sup>/10 min; 20 % glass fiber reinforced; milled fiber; high viscosity; easy release; injection molding – melt temperature 310–330 °C; extrusion; available in opaque colors only; precision parts

#### 30 % glass fiber reinforced

##### Makrolon® 8035

MVR (300 °C/1.2 kg) 4.0 cm<sup>3</sup>/10 min; 30 % glass fiber reinforced; milled fiber; high viscosity; easy release; injection molding – melt temperature 310–330 °C; extrusion; available in opaque colors only; precision parts

## ■ Glass fiber (normal fiber) reinforced grades

### 10 % Glass fiber reinforced

#### Makrolon® 9415

MVR (300 °C/1.2 kg) 6.0 cm<sup>3</sup>/10 min; 10 % glass fiber reinforced; flame retardant; UL 94V-0/1.5 mm and 5VA/3.0 mm; high viscosity; easy release; injection molding – melt temperature 310–330 °C; available in opaque colors only

#### Makrolon® 9417

MVR (300 °C/1.2 kg) 6.0 cm<sup>3</sup>/10 min; 10 % glass fiber reinforced; flame retardant; UL 94V-0/1.5 mm and 5VA/3.0 mm; high viscosity; UV stabilized; easy release; injection molding – melt temperature 310–330 °C; available in opaque colors only

#### Makrolon® GF9002

MVR (300 °C/1.2 kg) 15 cm<sup>3</sup>/10 min; 10 % glass fiber reinforced; flame retardant; UL 94V-0/1.2 mm; low viscosity; easy release; injection molding – melt temperature 310–330 °C; available in opaque colors only; electrical/electronic; housing parts with low wall thickness

### 15 % Glass fiber reinforced

#### Makrolon® GF8002

MVR (300 °C/1.2 kg) 10 cm<sup>3</sup>/10 min; 15 % glass fiber reinforced; medium viscosity; easy release; injection molding – melt temperature 310–330 °C; available in opaque colors only

#### Makrolon® 1095

MVR (300 °C/1.2 kg) 6.0 cm<sup>3</sup>/10 min; 15 % glass fiber reinforced; UL 94V-0/3.0 mm; high viscosity; easy release; injection molding – melt temperature 310–330 °C; extrusion; available in opaque colors only; housings for power tools

### 20 % Glass fiber reinforced

#### Makrolon® GF8001

MVR (300 °C/1.2 kg) 16 cm<sup>3</sup>/10 min; 20 % glass fiber reinforced; low viscosity; easy release; injection molding – melt temperature 310–330 °C; available in opaque colors only; housing parts

#### Makrolon® 9125

MVR (300 °C/1.2 kg) 8.0 cm<sup>3</sup>/10 min; 20 % glass fiber reinforced; flame retardant; UL 94V-0/1.5 mm; medium viscosity; easy release; injection molding – melt temperature 310–330 °C; available in opaque colors only

#### Makrolon® 9425

MVR (300 °C/1.2 kg) 5.0 cm<sup>3</sup>/10 min; 20 % glass fiber reinforced; flame retardant; UL 94V-0/1.5 mm and 5VA/3.0 mm; high viscosity; easy release; injection molding – melt temperature 310–330 °C; extrusion; available in opaque colors only

### 35 % Glass fiber reinforced

#### Makrolon® 8345

MVR (300 °C/1.2 kg) 3.0 cm<sup>3</sup>/10 min; 35 % glass fiber reinforced; high viscosity; easy release; injection molding – melt temperature 310–330 °C; extrusion; available in opaque colors only

## ■ Grades for special application

### Optical storage media

#### Makrolon® OD2015

MVR (250 °C/2.16 kg) 17 cm<sup>3</sup>/10 min; optical storage media; suitable for all formats; high purity; injection molding – melt temperature 300–350 °C; available in color code 000000 only

### LED optics and light guides

#### Makrolon® LED2045

MVR (250 °C/2.16 kg) 17 cm<sup>3</sup>/10 min; light guides; PC with highest transmission; low viscosity; easy release; injection molding – melt temperature 260–300 °C; available in color code 000000 only

#### Makrolon® LED2245

MVR (300 °C/1.2 kg) 34 cm<sup>3</sup>/10 min; light guides; optics and lenses; PC with highest transmission; low viscosity; easy release; injection molding – melt temperature 280–320 °C

#### Makrolon® LED2247

MVR (300 °C/1.2 kg) 35 cm<sup>3</sup>/10 min; low viscosity; UV stabilized; easy release; LED Lighting, optics and lenses; injection molding – melt temperature 280–320 °C

#### Makrolon® LED2643

MVR (300 °C/1.2 kg) 13 cm<sup>3</sup>/10 min; LED Lighting, optics and lenses; PC with highest transmission; medium viscosity; UV stabilized; injection molding – melt temperature 280–320 °C; available in color code 551053 only

### Diffuse reflectors

#### Makrolon® RW2405

MVR (300 °C/1.2 kg) 19 cm<sup>3</sup>/10 min; low viscosity; easy release; up to 96 % total reflectance; injection molding

#### Makrolon® RW2407

MVR (300 °C/1.2 kg) 19 cm<sup>3</sup>/10 min; low viscosity; easy release; UV stabilized; up to 96 % total reflectance; injection molding

#### Makrolon® RW6265 X

MVR (300 °C/1.2 kg) 19 cm<sup>3</sup>/10 min; low viscosity; easy release; flame retardant; UL 94V-0/1.5 mm; up to 96 % total reflectance; injection molding

#### Makrolon® RW6267 X

MVR (300 °C/1.2 kg) 19 cm<sup>3</sup>/10 min; low viscosity; easy release; UV stabilized; flame retardant; UL 94V-0/1.5 mm; up to 96 % total reflectance; injection molding

### Diffusers

Special grades with different levels of light diffusion properties and viscosities, for example Makrolon 2407 021173 or Makrolon 2407 021180. Optical data and more settings on request

### Heat sinks

#### Makrolon® TC8010

Polycarbonate (PC), injection molding, thermally conductive, 10 W/mK (ISO 22007-2), for metal replacement in LED lamps, thermal heat management

#### Makrolon® TC8030

Polycarbonate (PC), injection molding, high thermal conductivity, 22 W/mK (ISO 22007-2), for metal replacement in LED lamps; components for heat dissipation

For more information: [www.plastics.covestro.com](http://www.plastics.covestro.com)







### Optical lenses

#### Makrolon® LQ2647

MVR (300 °C/1.2 kg) 12 cm<sup>3</sup>/10 min; optical lens; medium viscosity; UV stabilized; easy release; injection molding – melt temperature 280–320 °C; available in clear tints only; safety glasses

#### Makrolon® LQ3187

MVR (300 °C/1.2 kg) 6.0 cm<sup>3</sup>/10 min; optical lens; high viscosity; UV stabilized; UV 400 cut off; easy release; injection molding – melt temperature 280–320 °C; safety glasses; sun glasses



### Automotive lighting

#### Makrolon® AL2447

MVR (300 °C/1.2 kg) 19 cm<sup>3</sup>/10 min; automotive lighting; low viscosity; UV stabilized; easy release; injection molding – melt temperature 280–320 °C; available in clear transparent colors and in various signal colors; headlamp lenses for automotive forward lighting

#### Makrolon® AL2647

MVR (300 °C/1.2 kg) 12 cm<sup>3</sup>/10 min; automotive lighting; medium viscosity; UV stabilized; easy release; injection molding – melt temperature 280–320 °C; available in clear transparent colors and in various signal colors; headlamp lenses for automotive forward lighting



### Automotive glazing

#### Makrolon® AG2677

MVR (300 °C/1.2 kg) 12 cm<sup>3</sup>/10 min; medium viscosity; UV stabilized; easy release; injection molding – melt temperature 280–320 °C; available in transparent colors only; automotive glazing; roof modules

### Blow molding

#### Makrolon® WB1239

MVR (300 °C/1.2 kg) 2.0 cm<sup>3</sup>/10 min; blow molding; high viscosity; branched; food contact quality; extrusion blow molding; injection stretch blow molding; available in transparent colors only; water bottles



### Furniture application

#### Makrolon® 2807

MVR (300 °C/1.2 kg) 9.0 cm<sup>3</sup>/10 min; general purpose; medium viscosity; UV stabilized; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

#### Makrolon® 3107

MVR (300 °C/1.2 kg) 6.0 cm<sup>3</sup>/10 min; general purpose; high viscosity; UV stabilized; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

### Extrusion

#### Makrolon® ET2613

MVR (300 °C/1.2 kg) 12 cm<sup>3</sup>/10 min; extrusion; medium viscosity; UV stabilized; available in color code 550060 only; solid sheet

#### Makrolon® ET3113

MVR (300 °C/1.2 kg) 6.0 cm<sup>3</sup>/10 min; extrusion; high viscosity; UV stabilized; available in transparent colors only; solid sheet; corrugated sheet

#### Makrolon® ET3117

MVR (300 °C/1.2 kg) 6.0 cm<sup>3</sup>/10 min; extrusion; high viscosity; UV stabilized; easy release; available in color code 550115 only; multi wall sheets/profiles; corrugated sheet

#### Makrolon® ET3137

MVR (300 °C/1.2 kg) 6.0 cm<sup>3</sup>/10 min; extrusion; high viscosity; branched; UV stabilized; easy release; multi wall sheets/profiles; panels

#### Makrolon® ET3227

MVR (300 °C/1.2 kg) 3.0 cm<sup>3</sup>/10 min; extrusion; high viscosity; branched; UV stabilized; easy release; multi wall sheets/profiles

#### Makrolon® ET UV110

PC/UV absorber concentrate; high viscosity; easy release; special grade for the coextrusion of Makrolon® ET base resins; available in color code 550054 only; solid sheet; multi wall sheets/profiles

#### Makrolon® ET UV120

PC/UV absorber concentrate; high viscosity; easy release; special grade for the coextrusion of Makrolon® ET base resins; available in color code 451105 only; solid sheet; multi wall sheets/profiles

#### Makrolon® ET UV130

PC/UV absorber concentrate; high viscosity; easy release; special grade for the coextrusion of Makrolon® ET base resins; available in color code 550054 only; solid sheet; multi wall sheets/profiles

#### Makrolon® ET UV510

PC/UV absorber concentrate; high viscosity; easy release; very low plate-out; special grade for the coextrusion of Makrolon® ET base resins; available in color code 550054 only; solid sheet; multi wall sheets/profiles

#### Makrolon® ET UV530

PC/UV absorber concentrate; high viscosity; easy release; very low plate-out; special grade for the coextrusion of Makrolon® ET base resins; available in color code 550054 only; solid sheet; multi wall sheets/profiles

#### Makrolon® ET UV540

PC/UV absorber concentrate; high viscosity; easy release; very low plate-out; special grade for the coextrusion of Makrolon® ET base resins; available in color code 551307 only; solid sheet; multi wall sheets/profiles



## Structural foam

### Makrolon® SF800

MVR (300 °C/1.2 kg) 5.0 cm<sup>3</sup>/10 min; structural foam; 5 % glass fiber reinforced; flame retardant; high viscosity; easy release; in combination with an appropriate blowing agent for the production of structural foam moldings

### Makrolon® SF800 Z MAS148

MVR (300 °C/1.2 kg) 9.0 cm<sup>3</sup>/10 min; structural foam; 5 % glass fiber reinforced; milled fiber; flame retardant; medium viscosity; easy release; injection molding; available in natural (opaque) and opaque colors; in combination with an appropriate blowing agent for the production of structural foam moldings

## Food contact grades

### Low viscosity

#### Makrolon® 2256

MVR (300 °C/1.2 kg) 34 cm<sup>3</sup>/10 min; food contact quality; low viscosity; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

#### Makrolon® 2456

MVR (300 °C/1.2 kg) 19 cm<sup>3</sup>/10 min; food contact quality; low viscosity; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

### Medium viscosity

#### Makrolon® 2656

MVR (300 °C/1.2 kg) 12 cm<sup>3</sup>/10 min; food contact quality; medium viscosity; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

#### Makrolon® 2856

MVR (300 °C/1.2 kg) 9.0 cm<sup>3</sup>/10 min; food contact quality; medium viscosity; easy release; injection molding – melt temperature 280–320 °C; available in transparent, translucent and opaque colors

#### Makrolon® 1248

MVR (300 °C/1.2 kg) 7.0 cm<sup>3</sup>/10 min; food contact quality; medium viscosity; impact modified; injection molding – melt temperature 280–320 °C; available in light colors only

### High viscosity

#### Makrolon® 3156

MVR (300 °C/1.2 kg) 6.0 cm<sup>3</sup>/10 min; food contact quality; high viscosity; easy release; injection molding – melt temperature 280–320 °C; extrusion; available in transparent, translucent and opaque colors

### High viscosity, branched

#### Makrolon® WB1239

MVR (300 °C/1.2 kg) 2.0 cm<sup>3</sup>/10 min; blow molding; high viscosity; branched; food contact quality; extrusion blow molding; injection stretch blow molding; available in transparent colors only; water bottles

## Medical devices\*

### Makrolon® 2258

MVR (300 °C/1.2 kg) 34 cm<sup>3</sup>/10 min; medical devices; suitable for ETO and steam sterilization at 121 °C; biocompatible according to many ISO 10993-1 test requirements; low viscosity; easy release; injection molding – melt temperature 280–320 °C; available in transparent and opaque colors

### Makrolon® 2458

MVR (300 °C/1.2 kg) 19 cm<sup>3</sup>/10 min; medical devices; suitable for ETO and steam sterilization at 121 °C; biocompatible according to many ISO 10993-1 test requirements; low viscosity; easy release; injection molding – melt temperature 280–320 °C; available in transparent and opaque colors

### Makrolon® 2558

MVR (300 °C/1.2 kg) 14 cm<sup>3</sup>/10 min; medical devices; suitable for ETO and steam sterilization at 121 °C; biocompatible according to many ISO 10993-1 test requirements; medium viscosity; easy release; injection molding – melt temperature 280–320 °C; available in transparent and opaque colors

### Makrolon® 2658

MVR (300 °C/1.2 kg) 12 cm<sup>3</sup>/10 min; medical devices; suitable for ETO and steam sterilization at 121 °C; biocompatible according to many ISO 10993-1 test requirements; medium viscosity; easy release; injection molding – melt temperature 280–320 °C; available in transparent and opaque colors

### Makrolon® 2858

MVR (300 °C/1.2 kg) 9.0 cm<sup>3</sup>/10 min; medical devices; suitable for ETO and steam sterilization at 121 °C; biocompatible according to many ISO 10993-1 test requirements; medium viscosity; easy release; injection molding – melt temperature 280–320 °C; available in transparent and opaque colors

### Makrolon® 3108

MVR (300 °C/1.2 kg) 6.0 cm<sup>3</sup>/10 min; medical devices; suitable for ETO and steam sterilization at 121 °C; biocompatible according to many ISO 10993-1 test requirements; high viscosity; injection molding – melt temperature 280–320 °C; available in transparent and opaque colors

### Makrolon® Rx2430

MVR (300 °C/1.2 kg) 19 cm<sup>3</sup>/10 min; medical devices; suitable for sterilization with high-energy radiation; biocompatible according to many ISO 10993-1 test requirements; low viscosity; injection molding – melt temperature 280–320 °C; transparent parts for medical devices

### Makrolon® Rx2435

MVR (300 °C/1.2 kg) 23 cm<sup>3</sup>/10 min; medical devices; suitable for sterilization with high-energy radiation; biocompatible according to many ISO 10993-1 test requirements; low viscosity; easy release; injection molding – melt temperature 280–320 °C; transparent parts for medical devices

### Makrolon® Rx2530

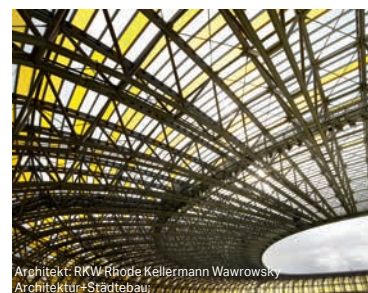
MVR (300 °C/1.2 kg) 15 cm<sup>3</sup>/10 min; medical devices; suitable for sterilization with high-energy radiation; biocompatible according to many ISO 10993-1 test requirements; medium viscosity; injection molding – melt temperature 280–320 °C; transparent parts for medical devices

### Makrolon® Rx1805

MVR (300 °C/1.2 kg) 6.0 cm<sup>3</sup>/10 min; medical devices; high lipid resistance; suitable for sterilization with high-energy radiation; biocompatible according to many ISO 10993-1 test requirements; high viscosity; injection molding – melt temperature 280–320 °C; transparent parts for medical devices

\* See disclaimer, page 19.

For more information: [www.plastics.covestro.com](http://www.plastics.covestro.com)



Architekt: RKW Rüdiger Kellermann Wawrowsky  
Architektur+Städtebau



**Apec®** is the brand name for an advanced copolycarbonate based on Makrolon® polycarbonate. With its unique combination of high heat resistance, toughness, transparency, light stability and flowability, it is unlike any other engineering thermoplastic. Worthy of note is the high heat resistance, which, depending on the grade, can be as high as 203 °C. This makes Apec® particularly suitable for moldings subject to such a high level of thermal stress that standard polycarbonate can no longer be used.

## Products in the range

- **Easy flow grades**
- **Grades with elevated viscosity**
- **Medical grade\***
- **Flame retardant grades**
- **Grades for diffuse reflectors**

## Characteristic features

### Color

Naturally transparent, almost colorless, available in many colors, both opaque and transparent

### Surface finish

High gloss or textured (depending on mold surface)

### Stiffness

Tensile modulus: 2,400 MPa

### Impact and break resistance

Charpy-impact strength (ISO 179-1eU): no failure

### Heat resistance

158–203 °C (Vicat-softening temperature according to VST/B 120)

### Service temperature

Short term temperature peaks for parts not subjected to high mechanical loads can be up to approx. 15 °C below the Vicat softening temperature. In case of long-term exposure to high temperatures, the Relative Temperature Index (RTI) to UL746 must be taken into account.

### Dimensional accuracy and stability

Very high, isotropic behavior, high heat resistance, no change in dimensions due to water absorption, slight change in dimensions due to post shrinkage.

### Electrical insulation

Dielectric strength up to 35 kV/mm; specific volume resistivity:  $10^{15}$  Ohm · m

## Processing and fabrication

### Processing the raw material

Injection molding, extrusion, compression molding, extrusion blow molding

### Secondary processing

Thermoforming, e.g. by vacuum forming

### Machining

Sawing, drilling, turning, milling, tapping and die-cutting

### Joining

Screwing, clamping, bonding, welding and riveting

### Finishing

Painting, printing, metallizing, embossing and polishing

## Main areas of application

### Automotive

Headlight bezels and frames, reflectors for indicators and headlights, lenses for fog lights

### Medical technology

Boxes for scalpels, filters for breathing masks, secretion collectors

### Electrical engineering and electronics, lighting

Lamp housings, light diffusers, fuse boxes

### Domestic appliances

Hairdryer housings with diffuser attachments

## ■ Easy flow grades

### Apec® 1695

MVR (330 °C/2.16 kg) 45 cm<sup>3</sup>/10 min; easy release; softening temperature (VST/B 120) = 158 °C; injection molding – melt temperature 320–340 °C; covers for brake lights and indicator lights; headlamp reflectors/bezels

### Apec® 1697

MVR (330 °C/2.16 kg) 45 cm<sup>3</sup>/10 min; low viscosity; easy release; UV stabilized; softening temperature (VST/B 120) = 157 °C; injection molding – melt temperature 320–340 °C

#### **Apec® 1795**

MVR (330 °C/2.16 kg) 30 cm<sup>3</sup>/10 min; easy release; low viscosity; softening temperature (VST/B 120) = 173 °C; injection molding – melt temperature 320–340 °C; covers for brake lights and indicator lights; headlamp reflectors/bezels

#### **Apec® 1797**

MVR (330 °C/2.16 kg) 30 cm<sup>3</sup>/10 min; low viscosity; easy release; UV stabilized; softening temperature (VST/B 120) = 172 °C; injection molding – melt temperature 320–340 °C

#### **Apec® 1895**

MVR (330 °C/2.16 kg) 18 cm<sup>3</sup>/10 min; easy release; softening temperature (VST/B 120) = 183 °C; injection molding – melt temperature 330–340 °C; covers for brake lights and indicator lights; recessed light fixtures/reflectors; raised brake lights; headlamp reflectors/bezels

#### **Apec® 1897**

MVR (330 °C/2.16 kg) 18 cm<sup>3</sup>/10 min; easy release; UV stabilized; softening temperature (VST/B 120) = 182 °C; injection molding – melt temperature 330–340 °C; lamp covers; headlamp lenses

#### **Apec® 2095**

MVR (330 °C/2.16 kg) 8 cm<sup>3</sup>/10 min; high viscosity; easy release; softening temperature (VST/B 120) = 203 °C; injection molding – melt temperature 330–340 °C; covers for brake lights and indicator lights; recessed light fixtures/reflectors; blade-type fuses; headlamp reflectors/bezels

#### **Apec® 2097**

MVR (330 °C/2.16 kg) 8 cm<sup>3</sup>/10 min; high viscosity; easy release; UV stabilized; softening temperature (VST/B 120) = 202 °C; injection molding – melt temperature 330–340 °C; lamp covers; headlamp lenses

### **Grades with elevated viscosity**

#### **Apec® 1603**

MVR (330 °C/2.16 kg) 25 cm<sup>3</sup>/10 min; high viscosity; UV stabilized; softening temperature (VST/B 120) = 159 °C; injection molding – melt temperature 320–340 °C

#### **Apec® 1703**

MVR (330 °C/2.16 kg) 17 cm<sup>3</sup>/10 min; UV stabilized; softening temperature (VST/B 120) = 171 °C; injection molding – melt temperature 320–340 °C; covers for brake lights and indicator lights; covers for domestic/industrial lamps; car interior light covers; headlamp lenses

#### **Apec® 1803**

MVR (330 °C/2.16 kg) 10 cm<sup>3</sup>/10 min; high viscosity; UV stabilized; softening temperature (VST/B 120) = 184 °C; injection molding – melt temperature 330–340 °C; covers for brake lights and indicator lights; car interior light covers; domestic lamp covers; headlamp lenses; covers for ships' lights; connector pieces for halogen systems

### **Medical grade\***

#### **Apec® 1745**

MVR (330 °C/2.16 kg) 17 cm<sup>3</sup>/10 min; easy release; suitable for superheated steam sterilization up to 143 °C as well as for pharmaceutical applications according to United States Pharmacopeia (USP) XXII Class VI; softening temperature (VST/B 120) = 170 °C; injection molding – melt temperature 320–340 °C; films for medical packaging; contact lens holders; medical vessels; safety valve for respiration aids; syringe tops

### **Flame retardant grades**

#### **Apec® FR 1892**

MVR (330 °C/2.16 kg) 18 cm<sup>3</sup>/10 min; easy release; softening temperature (VST/B 120) = 183 °C; easy-flowing; injection molding – melt temperature 330–340 °C; visors for firemen's helmets

#### **Apec® DP1-9354**

MVR (330 °C/2.16 kg) 12 cm<sup>3</sup>/10 min; flame retardant; high viscosity; only opaque colors available; V-0/1.5 mm (UL 94); V-0/3.0 mm (UL 94); 5VA/3.0 mm (UL 94); softening temperature (VST/B 120) = 185 °C; injection molding – melt temperature 330–340 °C

### **Grades for diffuse reflectors**

#### **Apec® RW1697**

MVR (330 °C/2.16 kg) 45 cm<sup>3</sup>/10 min; low viscosity; easy release; UV stabilized; high reflectance; injection molding – melt temperature 320–340 °C; extrusion; automotive lighting

#### **Apec® RW1795**

MVR (330 °C/2.16 kg) 28 cm<sup>3</sup>/10 min; low viscosity; easy release; high reflectance; injection molding – melt temperature 320–340 °C; extrusion; automotive lighting

#### **Apec® RW1895**

MVR (330 °C/2.16 kg) 18 cm<sup>3</sup>/10 min; low viscosity; easy release; high reflectance; injection molding – melt temperature 320–340 °C; extrusion; automotive lighting

\* See disclaimer, page 19.



Bayblend® is the trade name used by Covestro AG for its product line of amorphous, thermoplastic polymer blends based on polycarbonate (PC) and acrylonitrile butadiene styrene copolymer (ABS) as well as the rubber-modified polycarbonate (PC) and styrene-acrylonitrile copolymer (SAN) blends. Their property profiles can be customized by varying the composition of the blends. The particular strengths of Bayblend® are its balanced combination of heat resistance, toughness and stiffness and its excellent processing characteristics.

## Products in the range

- **Non-reinforced general purpose grades**
- **Mineral filled general purpose grades**
- **Glass fiber reinforced general purpose grades**
- **General purpose grades with improved weatherability**
- **General purpose grades for medical application\***
- **Non-reinforced flame retardant grades**
- **Mineral-filled flame retardant grades**
- **Flame retardant grades for TV application**

## Characteristic features

### Color

Opaque, available in many opaque colors

### Heat resistance

Vicat VST/B 120: standard grades: 112–142 °C,  
FR grades 93–136 °C

### Stiffness

Tensile modulus: 2,000–2,800 MPa, mineral filled grades: 3,300–4,900 MPa, glass fiber-reinforced grades: 4,800–10,000 MPa

### Toughness

High impact and notched impact strength even at low temperatures

## Dimensional accuracy

High, low shrinkage, minimal warping

## Flame retardance

Flame retardant grades with flammability classification to UL 94 V-0 as from 0.75 mm

## Electrical insulation

Good, specific volume resistivity:  $10^{14}$  Ohm · m,  
specific surface resistivity:  $10^{16}$  Ohm

## Processing and fabrication

### Processing the raw material

Injection molding, extrusion, extrusion blow molding

### Secondary processing

Thermoforming, e.g. by bending and stamping; cold forming, e.g. by high-pressure molding

### Machining

Sawing, drilling, turning, milling, planing, grinding, tapping and die-cutting

### Joining

Screwing, bonding, welding and riveting

### Finishing

Painting, printing, metallizing and laser marking

## Main areas of application

### Automotive

Instrument panels and ventilation nozzles, instrument panel supports with add-on components, post finishers, airbag covers, metallized trim and emblems, consoles, door handles, rear spoilers

### Data technology

Housings for computers, monitors, printers, photocopiers, laptops, televisions, DVD players and mobile phones

### Electrical engineering and electronics

Connectors, housings for switches and battery chargers, cable ducts

### Domestic, leisure, sports

Panels for dishwashers, washing machines, housings for kitchen appliances

\* See disclaimer, page 19.

## ■ Non-reinforced general purpose grades

### **Bayblend® T45 PG**

(ABS+PC)-blend; Vicat/B 120 temperature = 112 °C; for electroplating applications

### **Bayblend® T50 XF**

(PC+ABS)-blend; Vicat/B 120 temperature = 112 °C; excellent flow; good low temperature impact strength

### **Bayblend® T65 AT**

(PC+ABS)-blend; Vicat/B 120 temperature = 121 °C; improved antistatic behavior

### **Bayblend® T65 HG**

(PC+ABS)-blend; Vicat/B 120 temperature = 120 °C; easy flowing; high gloss; brilliant colors

### **Bayblend® T65 HI**

(PC+ABS)-blend; Vicat/B 120 temperature = 120 °C; grade with improved low-temperature impact strength and chemical resistance for automotive parts; also suitable for extrusion/extrusion blow molding and electroplating applications

### **Bayblend® T65 PG**

(PC+ABS)-blend; Vicat/B 120 temperature = 120 °C; easy flowing; good heat resistance; for electroplating applications

### **Bayblend® T65 XF**

(PC+ABS)-blend; Vicat/B 120 temperature = 120 °C; improved flow compared with T65

### **Bayblend® T80 XG**

(PC+ABS)-blend; Vicat/B 120 temperature = 130 °C; excellent flow; optimized surface quality for metallization (steam treatment)

### **Bayblend® T85 HG**

(PC+ABS)-blend; Vicat/B 120 temperature = 130 °C; easy flowing; high gloss; brilliant colors

### **Bayblend® T85 SG**

(PC+ABS)-blend; Vicat/B 120 temperature = 130 °C; very good flow; suitable for DirectCoating/Direct-Skinning

### **Bayblend® T85 XF**

(PC+ABS)-blend; Vicat/B 120 temperature = 130 °C; improved flow compared with T85

### **Bayblend® T90 HT**

(PC+ABS)-blend; high heat resistance; Vicat/B 120 temperature = 135 °C; easy flowing; ball indentation temperature  $\geq$  125 °C; suitable as supporting material for energized parts

### **Bayblend® T90 XF**

(PC+ABS)-blend; Vicat/B 120 temperature = 132 °C; good balance of melt flow, impact strength and stress cracking resistance

### **Bayblend® T90 XG**

(PC+ABS)-blend; Vicat/B 120 temperature = 135 °C; easy flowing; optimized surface quality for metallization (steam treatment)

## ■ Mineral filled general purpose grades

### **Bayblend® T95 MF**

(PC+ABS)-blend; 9 % mineral filled; Vicat/B 120 temperature = 142 °C; very good heat resistance; reduced coefficient of thermal expansion; tensile modulus = 3,350 MPa

### **Bayblend® T90 MF-20**

Rubber modified (PC+SAN)-blend; 20 % mineral filled; Vicat/B 120 temperature = 130 °C; very good flow; reduced coefficient of thermal expansion; tensile modulus = 4,900 MPa; good heat resistance

For more information: [www.plastics.covestro.com](http://www.plastics.covestro.com)





### ■ Glass fiber reinforced general purpose grades

#### **Bayblend® T88 GF-10**

Rubber modified (PC+SAN)-blend; 10 % glass fiber reinforced; Vicat/B 120 temperature = 134 °C; optimized heat ageing- and UV-stability; very good flow; tensile modulus = 4,800 MPa; good heat resistance

#### **Bayblend® T88 GF-20**

Rubber modified (PC+SAN)-blend; 20 % glass fiber filled; Vicat/B 120 temperature = 130 °C; optimized heat ageing- and UV-stability; very good flow; tensile modulus = 7,200 MPa; good heat resistance

#### **Bayblend® T88 GF-30**

Rubber modified (PC+SAN)-blend; 31 % glass fiber filled; Vicat/B 120 temperature = 134 °C; optimized heat ageing- and UV-stability; very good flow; tensile modulus = 10,000 MPa; good heat resistance

### ■ General purpose grades with improved weatherability

#### **Bayblend® W85 HI**

(PC+ASA)-blend; Vicat/B 120 temperature = 132 °C; easy flowing; improved weather resistance; excellent low temperature ductility; good heat resistance

#### **Bayblend® W85 XF**

(PC+ASA)-blend; Vicat/B 120 temperature = 134 °C; improved weather resistance; excellent low temperature ductility; good heat resistance

### ■ General purpose grades for medical application\*

#### **Bayblend® M850 XF**

(PC+ABS)-blend; easy flowing; Vicat/B 120 temperature = 131 °C; meet certain requirements of ISO Standard 10993-1; for further information please contact [plastics@covestro.com](mailto:plastics@covestro.com)

### ■ Non-reinforced flame retardant grades

#### **Bayblend® FR3000**

(PC+ABS)-blend; flame retardant; easy flowing; Vicat/B 120 temperature = 97 °C; UL recognition 94 V-0 at 1.5 mm; glow wire test: 960 °C at 2.0 mm; no juicing; good light stability

#### **Bayblend® FR3000 HI**

(PC+ABS)-blend; flame retardant; Vicat/B 120 temperature = 97 °C; compared to FR3000 improved chemical resistance and stress cracking behavior; UL recognition 94 V-0 at 1.5 mm

#### **Bayblend® FR3005 HF**

(PC+ABS)-blend; flame retardant; very easy-flowing; Vicat/B 120 temperature = 96 °C; UL recognition 94 V-0 at 1.5 mm

#### **Bayblend® FR3008 HR**

(PC+ABS)-blend; flame retardant; Vicat/B 120 temperature = 103 °C; improved chemical and very good hydrolysis resistance; HDT/A >= 85 °C; UL recognition 94 V-0 at 1.5 mm; glow wire test: 960 °C at 2.0 mm; good light stability

#### **Bayblend® FR3010**

(PC+ABS)-blend; flame retardant; Vicat/B 120 temperature = 110 °C; increased heat resistance; UL recognition 94 V-0 at 1.5 mm; glow wire temperature (GWFI): 960 °C at 2.0 mm; improved chemical resistance and stress cracking behavior; successor to FR2010

#### **Bayblend® FR3010 HF**

(PC+ABS)-blend; flame retardant; easy flowing; Vicat/B 120 temperature = 108 °C; UL recognition 94 V-0 at 1.5 mm; glow wire temperature (GWFI): 960 °C at 2.0 mm; optimized processability; good light stability

#### **Bayblend® FR3010 IF**

(PC+ABS)-blend; flame retardant; Vicat/B 120 temperature = 108 °C; increased heat resistance; UL recognition 94 5VB (1.5 mm); glow wire temperature (GWFI): 960 °C at 2.0 mm

#### **Bayblend® FR3011**

(PC+ABS)-blend; flame retardant; easy flowing; Vicat/B 120 temperature = 118 °C; good heat resistance; UL recognition 94 V-0 at 1.5 mm; glow wire temperature (GWFI): 960 °C at 2.0 mm; good light stability



\* See disclaimer, page 19.



**Bayblend® FR3015 BBS910**

(PC+ABS)-blend; flame retardant; UV stabilized for improved light stability; Vicat/B 120 = 118 °C; UL recognition 94 V-0 at 1.5 mm

**Bayblend® FR3030**

(PC+ABS)-blend; flame retardant; Vicat/B 120 temperature = 115 °C; extrusion grade; good extrusion and vacuum-forming behavior; UL recognition 94 V-0 at 1.5 mm; halogen-free according to DIN VDE 0472,815; glow wire temperature (GWFI): 960 °C at 1.0 mm

**Bayblend® FR3040**

(PC+ABS)-blend; flame retardant; Vicat/B 120 temperature = 108 °C; HDT/A >= 85 °C; for thin-wall applications; very good burning behavior in small wall thicknesses (UL recognition 94 V-0 at 0.75 mm and above and V-1 at 0.6 mm)

**Bayblend® FR1514**

(PC+ABS)-blend; flame retardant; high heat resistance; Vicat/B 120 temperature = 136 °C; ball indentation temperature >= 125 °C; UL recognition 94 V-0 at 1.5 mm; suitable as supporting material for energized parts

**Bayblend® FR1514 BBS073**

(PC+ABS)-blend; flame retardant; Vicat/B 120 temperature = 136 °C; improved chemical resistance and stress cracking behavior compared to KU2-1514; ball indentation temperature >= 125 °C; UL recognition 94 V-0 at 1.5 mm; suitable as supporting material for energized parts

## ■ Mineral-filled flame retardant grades

**Bayblend® FR3020**

(PC+ABS)-blend; 5 % mineral filled; flame retardant; Vicat/B 120 temperature = 103 °C; HDT/A >= 85 °C; for thin-wall applications; very good UL recognition in small wall thicknesses (V-0 at 0.75 mm); low smoke density

**Bayblend® FR3021**

(PC+ABS)-blend; 15 % mineral filled; flame retardant; Vicat/B 120 temperature = 98 °C; high stiffness; tensile modulus = 4,800 MPa; UL recognition 94 V-0 at 1.5 mm; glow wire temperature (GWFI): 960 °C at 2.0 mm

**Bayblend® ET3032 FR**

Rubber modified PC blend; 10 % mineral filled; flame retardant; Vicat/B 120 temperature = 108 °C; extrusion grade; good extrusion and vacuum-forming behavior; UL 94 V-0 (0.75 mm) (Covestro internal test); glow wire temperature (GWFI): 960 °C at 2.0 mm

**Bayblend® FR410 MT**

Rubber modified PC blend; 10 % mineral filled; flame retardant; Vicat/B 120 temperature = 108 °C; very good UL recognition in small wall thicknesses (V-0 at 0.75 mm); for railway interiors; due to the special formulation of this grade, the final parts may require coating; the classifications according to the respective rail standards are communicated with email inquiry under [plastics@covestro.com](mailto:plastics@covestro.com)

**Bayblend® FR411 MT**

Rubber modified PC blend; flame retardant; mineral filled; Vicat/B 120 temperature = 99 °C; extrusion grade; for European railway interiors requiring EN45545; the classifications according to the respective rail standards are communicated with email inquiry under [plastics@covestro.com](mailto:plastics@covestro.com)

**Bayblend® FR421 MT**

Rubber modified PC blend; mineral filled; flame retardant; Vicat/B 120 temperature = 134 °C; extrusion grade for aircraft interiors; the classifications according to the respective aircraft standards are communicated with email inquiry under [plastics@covestro.com](mailto:plastics@covestro.com)

## ■ Flame retardant grades for TV application

**Bayblend® FR3110 TV**

(PC+ABS)-blend; flame retardant; easy flowing; Vicat/B 120 temperature = 110 °C; increased heat resistance; UL recognition 94 V-0 at 1.5 mm

**Bayblend® FR3200 TV**

(PC+ABS)-blend; flame retardant; easy flowing; for high gloss applications; RHCM process etc.; Vicat/B 120 temperature = 96 °C; UL recognition 94 V-0 at 1.2 mm

**Bayblend® FR3210 TV**

(PC+ABS)-blend; flame retardant; easy flowing; Vicat/B 120 temperature = 93 °C; improved surface quality; UL recognition 94 V-0 at 1.2 mm

**Bayblend® FR3306 TV**

(PC+ABS)-blend, 10 % glass fiber reinforced; flame retardant; easy flowing; Vicat/B 120 temperature = 97 °C

**Bayblend® FR3311 TV**

(PC+ABS)-blend; 15 % glass fiber reinforced; flame retardant; easy flowing; Vicat/B 120 temperature = 96 °C; UL recognition 94V-1 at 1.2 mm and V- at 1.5 mm



Makroblend® is the brand name of our polycarbonate blends based on polyethylene terephthalate or polybutylene terephthalate (PET or PBT). The benefits of Makroblend® include its high strength, even at low temperatures, its good resistance to chemicals and its reduced tendency to stress cracking. In addition, it is easily painted and absorbs only a minimal amount of moisture.

## Products in the range

■ **Unreinforced grades**

■ **Reinforced grades**

■ **Medical grade\***

## Characteristic features

### Color

Naturally light ivory in color, available in many opaque colors, light stable

### Surface finish

Gloss or matt

### Stiffness

High, tensile modulus: 1,800 to 6,500 MPa, depending on the grade

### Toughness

High impact strength, good strength, even at low temperatures

### Heat resistance

High; depending on the grade

### Dimensional accuracy and stability

Good, significantly better than partially crystalline thermoplastics, absorbs only a minimum amount of moisture

### Resistance to chemicals

Good, especially resistant to fuels, greases, solvents and cleaning agents

### Electrical insulation

Good

## Processing and fabrication

### Processing the raw material

Injection molding, extrusion, rotational molding

### Secondary processing

Thermoforming, e.g. one ending and stamping; cold forming, e.g. by high-pressure molding

### Machining

Sawing, drilling, turning, milling, planing, grinding, tapping, die-cutting and cutting

### Joining

Screwing, bonding, welding and riveting

### Finishing

Painting, printing, metallizing and laser marking

## Main areas of application

### Automotive

Bumpers, radiator grilles, external components, body-work components

### Electrical engineering and electronics

Housings of electrical tools

### Domestic, leisure, sports

Toecaps of safety shoes

## ■ Unreinforced grades (PC+PET)-blends

### Makroblend® AR205

(PC+PET)-blend, easy flow, impact modified; application: automotive body panels

### Makroblend® DP7645

(PC+PET)-blend, impact modified, injection molding grade

### Makroblend® UT250

(PC+PET)-blend, impact modified, easy release, injection molding. Makroblend® UT250 offers high heat resistance, good chemical resistance and flowability. Additionally, molded parts from UT250 having exceptional dimensional stability

### Makroblend® UT305

(PC+PET)-blend, easy release, injection molding. Makroblend® UT305 offers high heat resistance, good chemical resistance and flowability. Molded parts from UT305 provide a good surface appearance and exceptional dimensional stability, even in high moisture environments

## ■ Unreinforced grades (PC+PBT)-blends

### **Makroblend® KU2-7912**

(PC+PBT)-blend, impact modified, injection molding grade, medium flow, high toughness at low temperatures, ideal for painted application

### **Makroblend® KU2-7912/4**

(PC+PBT)-blend, impact modified, injection molding grade, high toughness at low temperatures, ideal for painted applications

### **Makroblend® KU2-7915**

(PC+PBT)-blend, impact modified, injection molding grade, excellent toughness at low temperatures, ideal for painted applications

### **Makroblend® UT3907**

(PC+PBT)-blend, high flow, impact modified, easy release, UV-stabilized, injection molding grade. Makroblend® DP UT3907 offers superior flowability, good impact strength and excellent chemical resistance

### **Makroblend® UT6007**

(PC+PBT)-blend, impact modified, easy release, UV-stabilized, injection molding grade. Makroblend® UT6007 offers an exceptional low-temperature impact strength, good flowability and excellent chemical resistance

### **Makroblend® S7916**

(PBT+PC)-blend, impact modified, injection molding grade, excellent chemical resistance, high toughness at low temperatures, ideal for painted applications

## ■ Reinforced grades (PC+PET)-blends

### **Makroblend® UT235M**

(PC+PET)-blend, mineral filled, easy flow, low coefficient of linear thermal expansion, easy release, injection molding. Molded parts from UT235M having exceptional dimensional stability

## ■ Reinforced grades (PC+PBT)-blends

### **Makroblend® KU2-7609**

(PC+PBT)-blend, impact modified, injection molding grade, 20 % mineral filled

### **Makroblend® UT4045G**

(PC+PBT)-blend, 20 % glass fiber reinforced, easy release, injection molding. Makroblend® UT4045G offers a high stiffness, excellent chemical resistance, good flowability and exceptional dimensional stability

## ■ Medical grade\*

### **Makroblend® M525**

(PC+PBT)-blend, impact modified, easy release, injection molding grade. Makroblend® M525 offers an exceptional low-temperature impact strength, good flowability and excellent chemical resistance. Manufactured according to GMP, tested only according to ISO 10993-5 and ISO 10993-10 for contact with uncompromised skin only; for questions regarding biocompatibility we ask for an email inquiry under [plastics@covestro.com](mailto:plastics@covestro.com)

\* See disclaimer, page 19.

For more information: [www.plastics.covestro.com](http://www.plastics.covestro.com)







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The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance, information and recommendations to determine to your own satisfaction whether our products, technical assistance and information are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by Covestro. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale which are available upon request. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with any claim of any patent relative to any material or its use. No license is implied or in fact granted under the claims of any patent.

#### Typical value

These values are typical values only. Unless explicitly agreed in written form, they do not constitute a binding material specification or warranted values. Values may be affected by the design of the mold/die, the processing conditions and coloring/pigmentation of the product. Unless specified to the contrary, the property values given have been established on standardized test specimens at room temperature.



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