PICTOGRAM LEGEND

The products described on the following pages have been developed to meet diverse requirements and work conditions.

The main features of the materials and their characteristic attributes are depicted using the pictograms listed below.

High wear resistance

Long lifetime due to low wear

Extremely high resistance to chemicals

The extremely high resistance of the material to chemicals means that there is no need for additional surface protection. As a result, there is less corrosion and maintenance intervals are longer.

No moisture absorption

Extremely suited for use in wet atmospheres since all key values remain constant.

Very good impact/shock cushioning

No to low tendency to fracture if impacts/shocks occur. Significant reduction in running and impact noises. Additional noise protection is therefore often not required.

Good anti-adhesion properties

Thanks to the paraffin-like surface quality, the freezing on/adhesion of conveyed goods is ruled out.

FDA approved

All types are free of CFCs, cadmium, and silicone and meet the guidelines of the Food and Drug Administration (FDA). These materials are thus extremely suitable for use in the food and beverage sectors.

Electrically isolating

These materials have electrical isolation properties.

Antistatic

Special additives discharge electrostatic charges. In addition, the material is highly resistant to UV rays.

Low noise level

The damping properties of the material reduce running noises significantly in comparison with metals.

High pressure resistance

Fantastic pressure resistance values enable the material to be used at low temperatures and provide a cost-effective design alternative to cold-work steel.

Environmentally friendly

Highly developed, controlled conditioning processes are used to produce technically challenging materials.

Hydrolysis resistance

Extremely suitable for use in hot water or saturated steam.

Good slide properties

Suitable for dynamic use. Reduces required drive power.

Antimicrobial

Prevents growth of bacteria and microbes with an efficacy of around 99.96 to 99.99%.

UV resistance

Especially suitable for use outdoors or in other environments subject to UV radiation.

Suitable for relatively high continuous temperatures

Can be used at relatively high continuous temperatures.

Self-lubricating

Can be used without additional lubrication. Has a long, maintenance-free lifetime at low drive power thanks to optimum friction coefficients.

Can be used in explosion hazard areas

Materials

MATERIALS

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MATERIALS

A basis for reliability
Our range of products includes specially designed materials that are carefully tuned for use in an extremely wide range of applications.

The best material for every application
Our range constitutes the basis for optimized machining and production processes.

The most important factors of our materials' success are as follows:

- Excellent slide properties
- High wear resistance
- Great mechanical and chemical resistance
- Long lifetime

Our service

- **Economical, quick, and precise production of finished parts in accordance with individual requirements – even in small lots**
- Pre-cut custom parts from sheets and rods
- Large warehouse stock of semi-finished parts with different dimensions
- Short delivery times thanks to ample warehouse capacities

Technical Materials

Each sector and application has specific requirements for machines and plants. Quality is important in even the smallest components, since it influences subsequent production and machining processes. We have always concentrated on the task of developing forward-looking products for a wide application spectrum. Our technical materials are primarily characterized by good slide properties and high wear resistance. This means that we are able to guarantee a long lifetime for our materials and low maintenance requirements for your plants.

High-Performance Materials

Our high-performance materials are designed to meet unusual requirements and high stresses and stains. They are the result of the consistent development of our technical materials. They are characterized by exceptional chemical, mechanical, and thermal resistance and resilience in situations of dynamic stress. Murtfeldt high-performance materials are therefore ideally suited for extremely customized tasks.

ORIGINAL MATERIAL ”S”®

A traditionally successful material

Since the 1950s, Material ”S”® has been tried and tested a thousand times over for a wide range of applications in power engineering and conveyor technology.

Material ”S”® is based on virgin, ultra-high molecular weight low density polyethylene and significantly exceeds the requirements of DIN 16972. Original Material ”S”® is one of the most successful groups of materials in the industrial plastics sector.

SPECIAL PROPERTIES

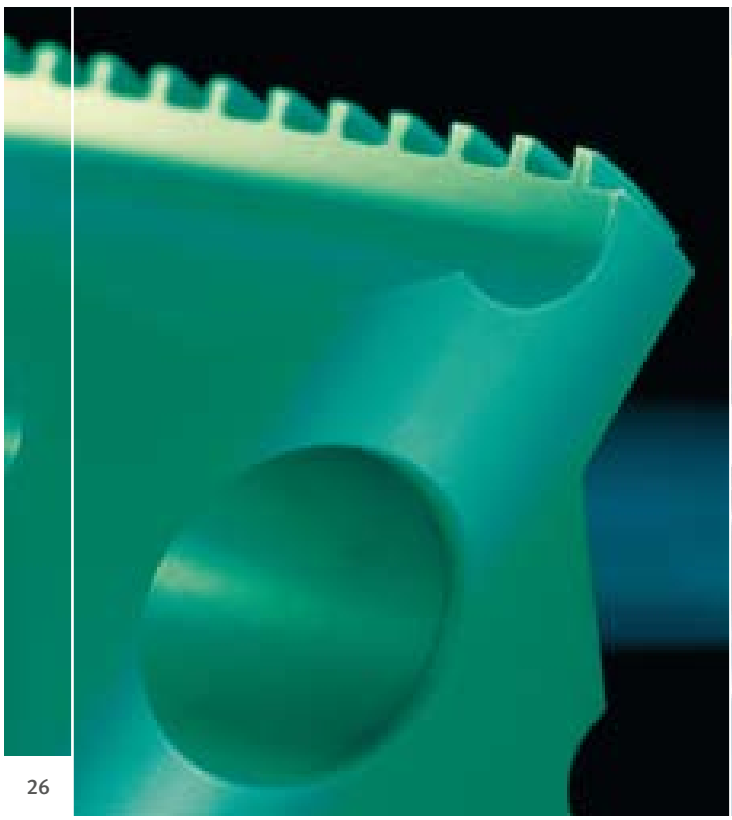
- Extremely high wear resistance – even in abrasive applications
- Excellent slide properties
- High impact strength
- Extremely good resistance to chemicals
- Excellent shock and impact absorption
- Good anti-adhesion properties
- No moisture absorption
- Available in all RAL colours (minimum purchase quantity of 600kg for materials not kept on stock)
- Electrically isolating (”S” Green, Natural, and colours)
- Approved for use in the food industry (EU and FDA)
- Antistatic (”S” Black)
- Suitable for devices and machines subject to Directive 94/9/EC (ATEX 95) (”S” Black)

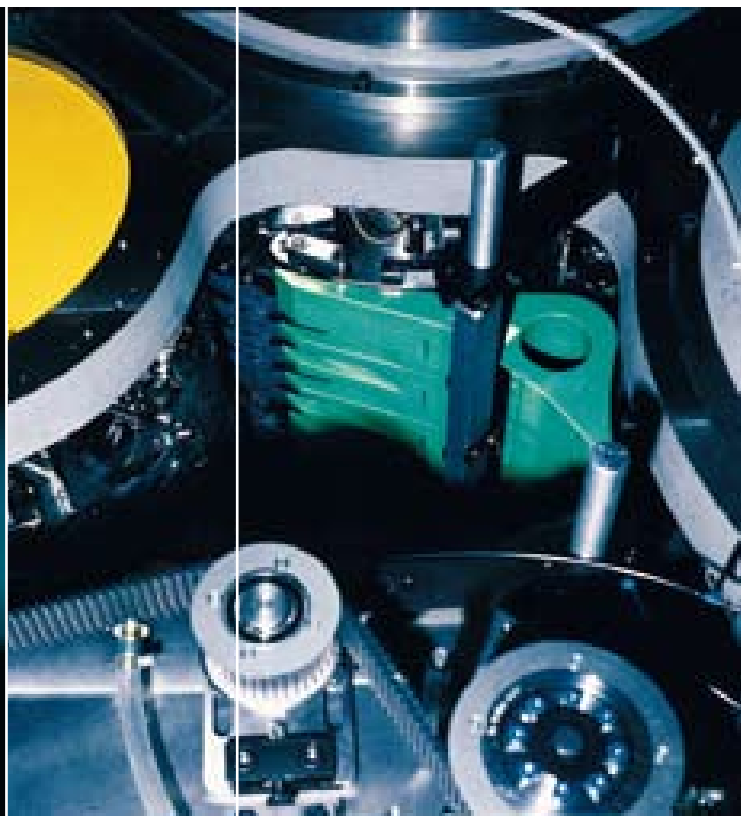
POSSIBILITIES OF USE Green/Natural/colours

- Slide bearings
- Chain guides
- Highly wear-resistant slide segments
- Slide profiles

POSSIBILITIES OF USE Black

- Belt guides
- Highly wear-resistant antistatic slide segments
- Slide profiles





MATERIAL ”S”® 1000

For a favourable mix of properties

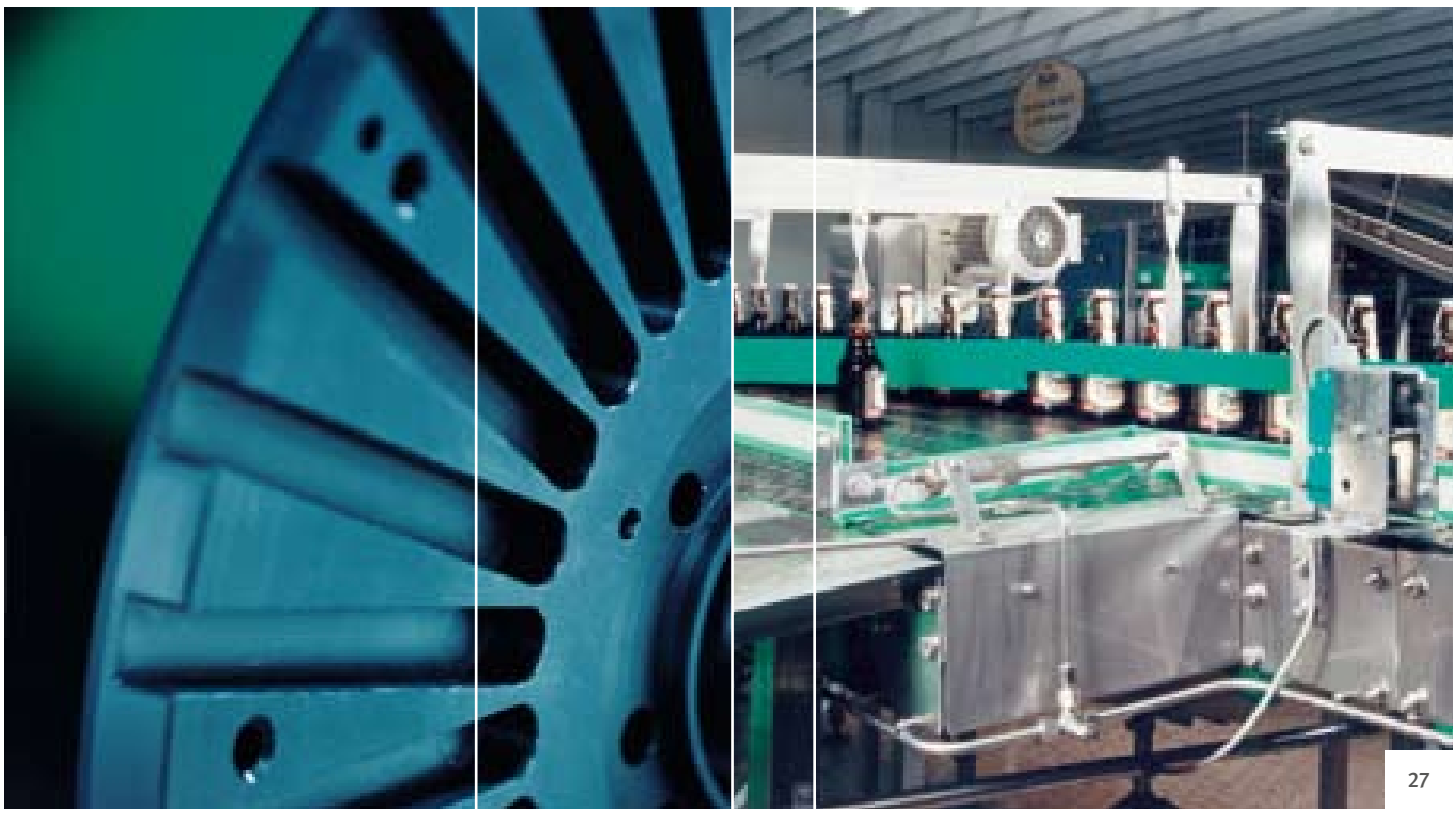
This material is exclusively produced from ultra-high molecular weight polyethylene powder that is mixed with finely milled Original Material ”S”®. The mixing process is computer-monitored. The fine milled material is compression-moulded at high pressure and temperatures to form new semi-finished products. This results in a high-quality material with an exceptional price/performance ratio that is characterized by exceptional abrasion resistance and good slide properties. Material ”S”®1000 is physiologically safe.

SPECIAL PROPERTIES

- Good wear resistance properties
- Good slide properties
- Good anti-adhesion properties
- No moisture absorption
- Electrically isolating (”S” 1000 Green)
- Antistatic (”S” 1000 Black)
- Economical
- Environmentally friendly

POSSIBILITIES OF USE

- Slide bearings
- Chain guides
- Wear-resistant slide segments
- Slide profiles



ORIGINAL MATERIAL ”S”® 8000

Smooth and strong

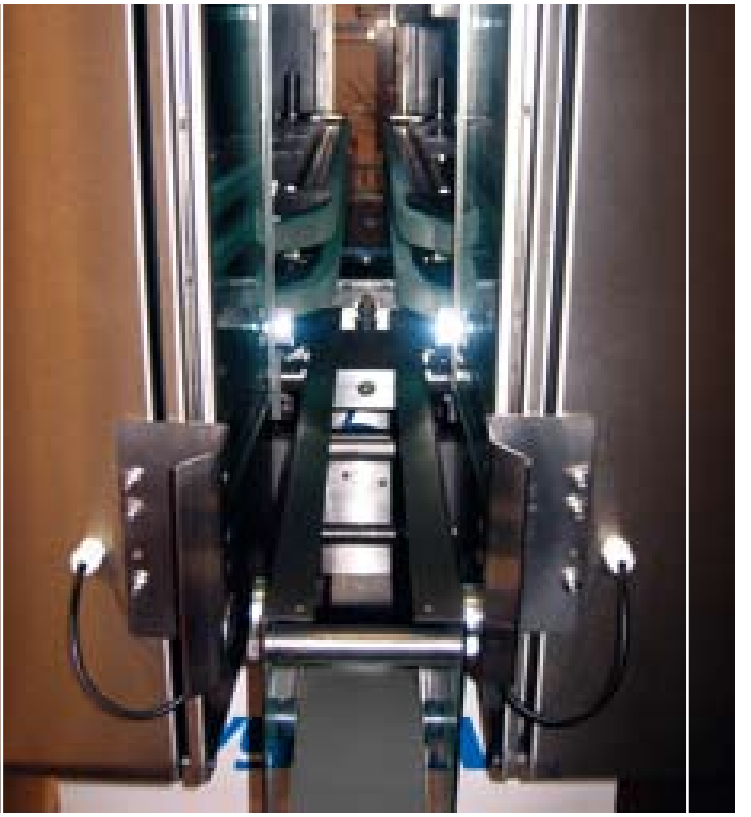
This material results from the further development of a tried-and-tested material – experiences of over 50 years of producing Material ”S”® have contributed to its development. This has involved improving already impressive material properties. For example, the self-lubricating character of this material has resulted in an improved sliding friction coefficient in comparison with Material ”S”®. Material ”S”®8000 is ideally suited for use in sliding guides, slide segments, and slide bearings.

SPECIAL PROPERTIES

- Self-lubricating – lower sliding friction coefficient
- Increased wear resistance
- Excellent shock and impact absorption
- Good resistance to chemicals
- Good anti-adhesion properties
- Electrically isolating
- High resistance to UV rays

POSSIBILITIES OF USE

- Highly wear-resistant slide elements
- Sliding guides, slide segments, and sliding bearings



ORIGINAL MATERIAL ”S”® plus+ GB

Practically no wear

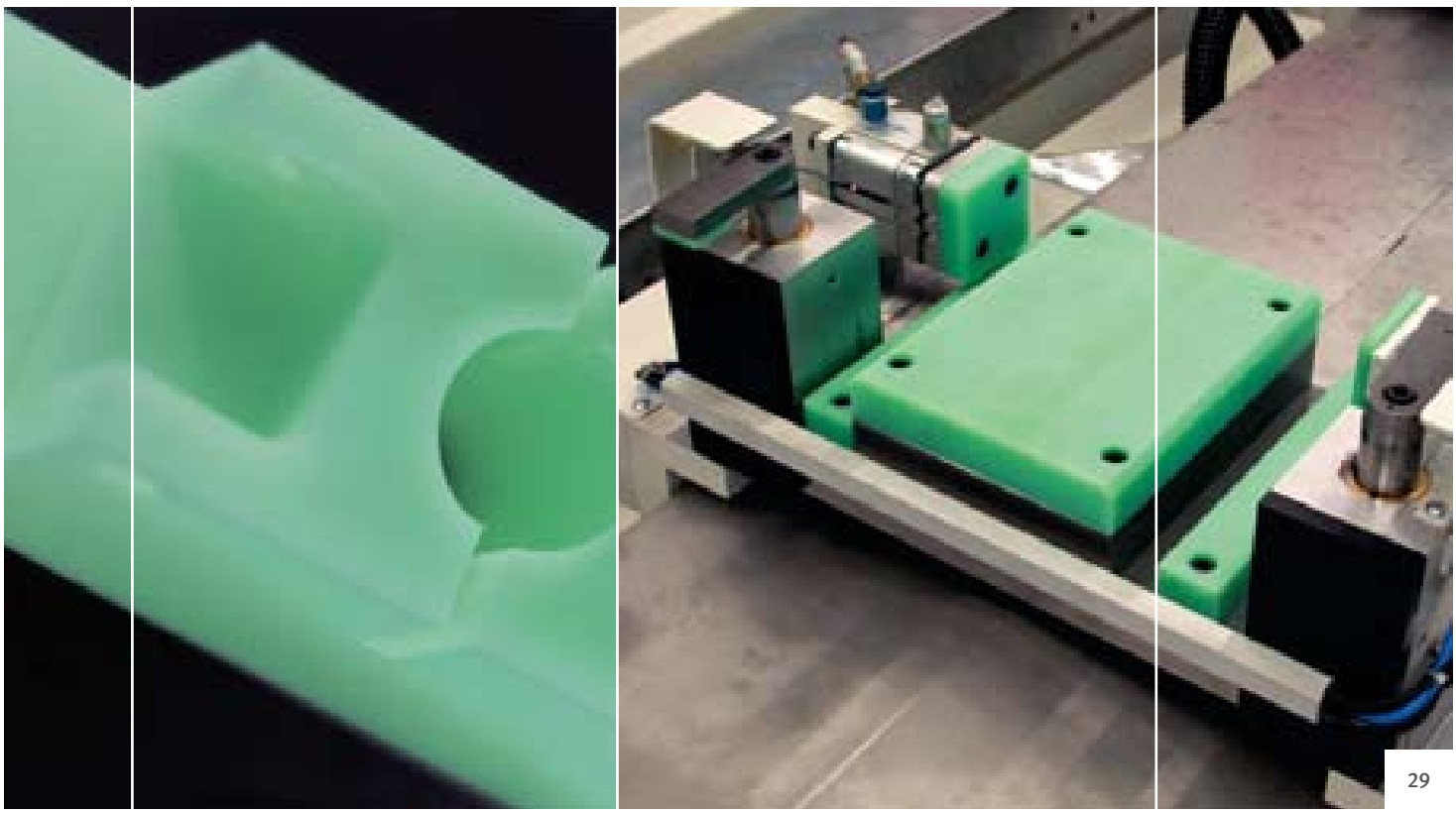
This material is used for applications that involve manufacturing and transportation at high pressure. The balanced quantity of micro glass beads in Material ”S”®plus+ GB provides the combined benefits of extremely high molecular weight polyethylene and glass. The glass beads that protrude from the surface give a rounded and hard sliding surface.

SPECIAL PROPERTIES

- Protects the sliding partner (unlike glass-fibre reinforced plastics)
- Extremely good resistance to chemicals
- Approved for use in the food industry (EU and FDA)

POSSIBILITIES OF USE

- Guides for PET bottlenecks in the beverage industry
- In abrasive environments (for example, environments where lint is present)



ORIGINAL MATERIAL ”S”® plus+ OIL

For peace and quiet

In Material ”S”®plus+ OIL, the lubricant is actually integrated into the material rather than being on the surface. This prevents lubricant from leaking and dust particles from adhering to the surface.

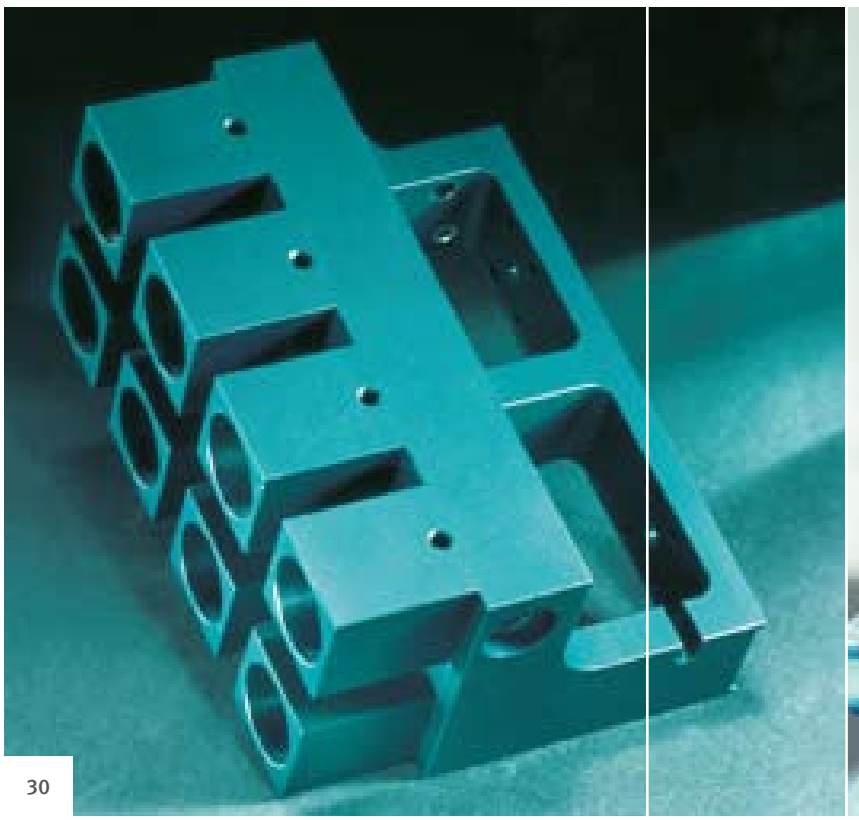
A further positive effect of the integration of oil in the material is an improvement in the coefficient of friction. Material ”S”®plus+ OIL guarantees exceptional slide properties and the oil in the material helps to prevent the stick/slip effect. This reduces noise to a minimum.

SPECIAL PROPERTIES

- Self-lubricating
- Minimal sliding friction coefficient
- No moisture absorption
- Reduction in stick/slip effect means a minimal amount of noise such as squeaking
- Approved for use in the food industry (EU and FDA)

POSSIBILITIES OF USE

- In the food sector as, for example, slide profiles for modular link belts, slat band chains, chain guides, sliding bearing bushes, valve housings, and much more
- Use in industrial applications for which no lubricant may be used due to a need to prevent ground-water contamination



ORIGINAL MATERIAL "S"® plus+ ESD

Worry-free work

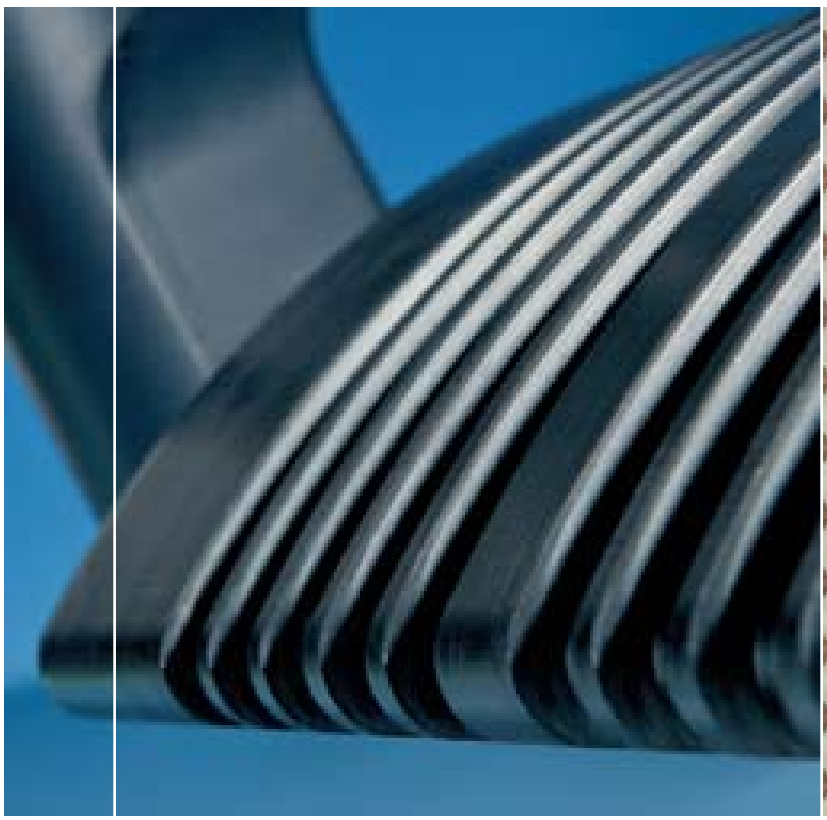
Thanks to its extremely low electrical resistance, Material "S"®plus+ ESD is an optimum conductor. Full voltage dissipation for earthed components at maximum speed enables safe, spark-free work. This material provides a cost-effective alternative to carbon-filled PTFE.

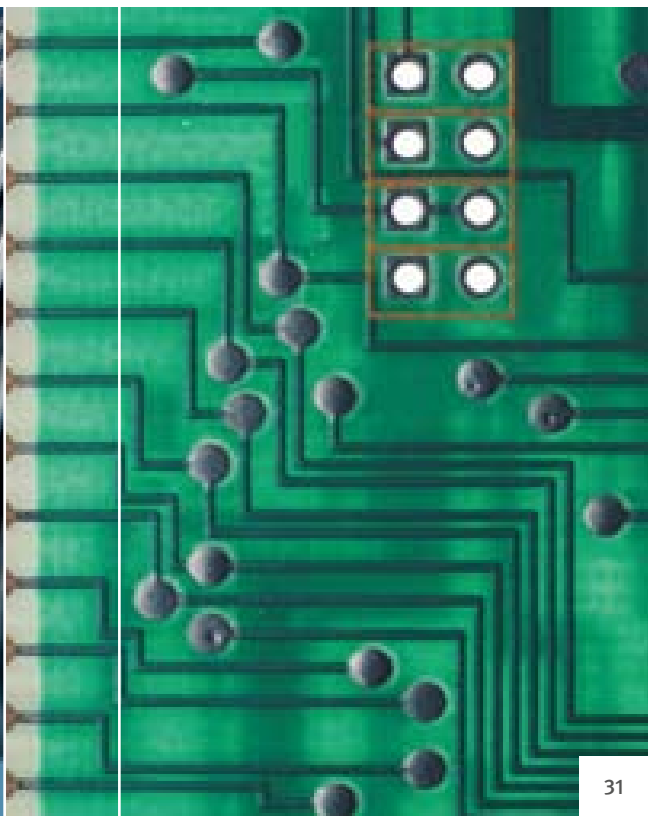
SPECIAL PROPERTIES

- Very good conductivity (surface resistance of < 10^4 ohm)
- Voltage dissipation on surface in less than 0.1s
- Cost-effective alternative to carbon-filled PTFE
- Suitable for devices and machines subject to Directive 94/9/EC (ATEX 95)
- Approved for use in the food industry (EU and FDA)

POSSIBILITIES OF USE

- In the automotive and semiconductor sectors as, for example, full-surface sliding bases for modular link belts
- As work piece carriers for sensitive electronic components





ORIGINAL MATERIAL ”S”® plus+ Bright ESD

Keeping it clean

For the first time, it has been possible to develop a light plastic with high conductivity and a voltage-dissipating effect on earthed components. This combination was not previously possible. This material is ideal for use in applications where a high value is placed on hygiene and antistatic characteristics.

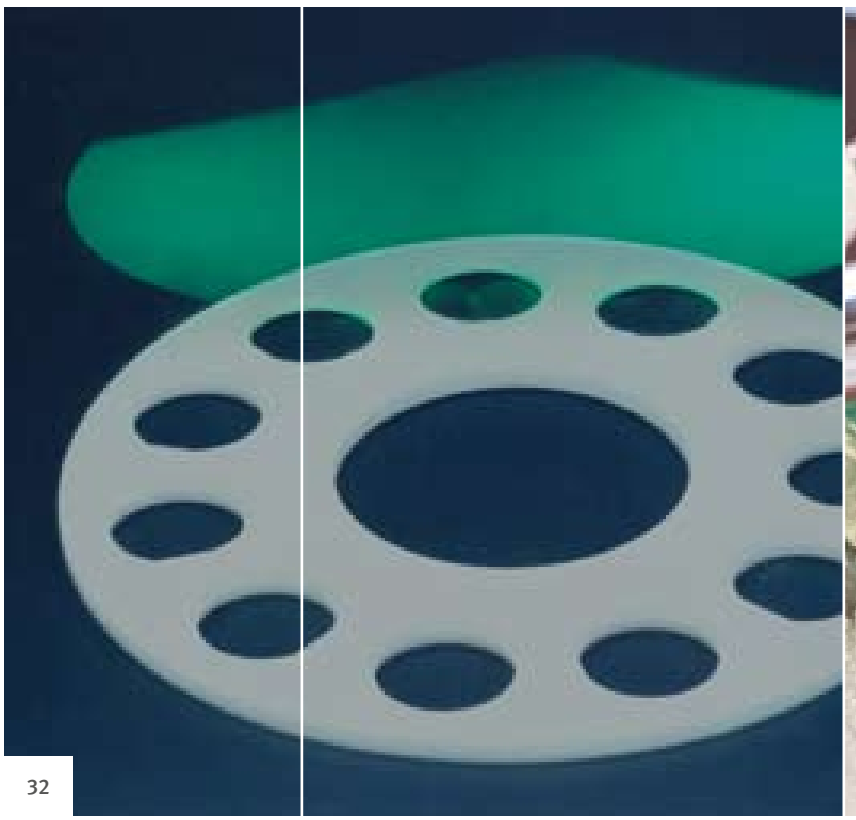
In many work environments, light surfaces are mandatory. The conductivity of Material ”S”®plus+ Bright ESD provides optimum safety. Its properties largely match those of Material ”S”®plus+ ESD.

SPECIAL PROPERTIES

- Very good conductivity (surface resistance of ≤ 10^5 ohm)
- Ideally suited to light, dust-free environments
- Suitable for devices and machines subject to Directive 94/9/EC (ATEX 95)

POSSIBILITIES OF USE

- Clean room technology
- Medicine
- Laboratories



ORIGINAL MATERIAL "S"® plus+ AB

Sterile and safe

Material "S"®plus+ AB contains special substances that prevent the growth of bacteria and other microbes at the same time as protecting the environment and people. The material is thus ideally suited for use when manufacturing and processing foods. It can reduce the growth of microbes on surfaces by between 99.96 to 99.99% in comparison with materials with no special additives. This means that it can virtually eradicate unpleasant smells and the formation of biofilms. "S"®plus+ AB combines antibacterial properties with the exceptional characteristics of the "S"®plus+ range.

SPECIAL PROPERTIES

- Reduces bacteria and microbe growth by around 99.99%
- Approved for use in the food industry (EU and FDA)
- High wear resistance
- Long lifetime
- Good resistance to chemicals
- Good acoustic insulation
- No moisture absorption

POSSIBILITIES OF USE

- Curve and chain guides and slide bars or components in the food and beverage industry (especially in the meat sector and in dairies and breweries)
- Slide and drive elements in medical and food technology
- In areas where high standards of hygiene are required, such as the storage and handling of food, cosmetics, and drugs

MURALEN®

Great for making chopping boards

Muralen® is based on high molecular weight polyethylene (PE-HMW) and is ideally suited for use in applications that require the generally impressive material properties of polyethylene. However, it is only used in cases where the excellent slide and wear resistance properties of Original Material "S"® are not required. Because of its great cut, impact, and shock resistance, this material is often used to make underlays for cutting and punching machines and for ram guards.

MURALEN® PLUS+ AB

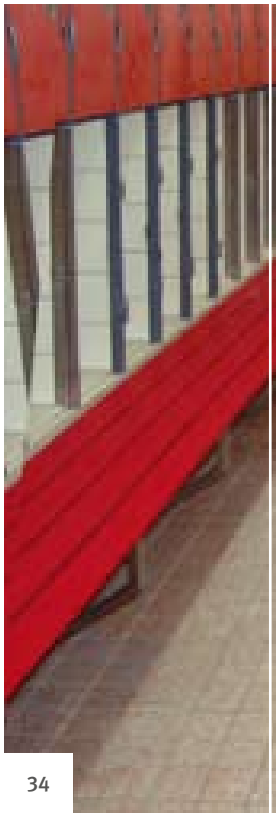
This material has the same properties as Muralen® but also has an anti-microbe effect.

SPECIAL PROPERTIES

- High cut resistance
- Good shock and impact absorption
- Good slide properties
- Good resistance to chemicals
- Good anti-adhesion properties
- No moisture absorption
- Approved for use in the food industry (EU and FDA)
- Available in all RAL colours (minimum purchase quantity of 600kg for materials not kept on stock)
- Good weldability
- Antibacterial properties (Muralen® plus+ AB)
- Antistatic (Muralen® Black)

POSSIBILITIES OF USE

- Chopping boards/underlays for cutting machines
- Ram guards in supermarkets, cold stores, and abattoirs



MURLUBRIC®

Smooth sliding

Mineral oil is integrated into this modified cast polyamide during polymerization. As a result, the material has self-lubricating properties and retains its excellent characteristics for its entire lifetime. This significantly reduces operating and maintenance costs.

This material has practically the best slide properties of our entire range. In addition, Murlubric® is extremely wear-resistant and is suitable for use in high-stress slide and wearing applications even at high speeds.

SPECIAL PROPERTIES

- Excellent slide properties
- Wear-resistant, even in abrasive applications
- High mechanical strength
- Self-lubricating
- Vibration-free running
- Low residual stress
- Good lubricant resistance
- High dynamic load-bearing capacity

POSSIBILITIES OF USE

- Rollers
- Highly-stressed slide elements (lifetime is 5 to 10 times longer than for normal polyamide)
- Chain guide rails
- Radial sliding bearings

MURYLON® B

A strong bond

Murylon® B natural has the best impact resistance of all Murylon materials. This material is especially suited for use in machine construction thanks to an excellent combination of mechanical properties.

SPECIAL PROPERTIES

- Exceptional resistance
- Good impact strength
- Low cold flow characteristics
- Approved for use in the food industry (EU and FDA)

MURYLON® A

No wearing down

This material combines the excellent properties of the Murylon® range with additional high tensile and compressive strength, increased wear resistance, and a lower level of moisture absorption than Murylon® B.

SPECIAL PROPERTIES

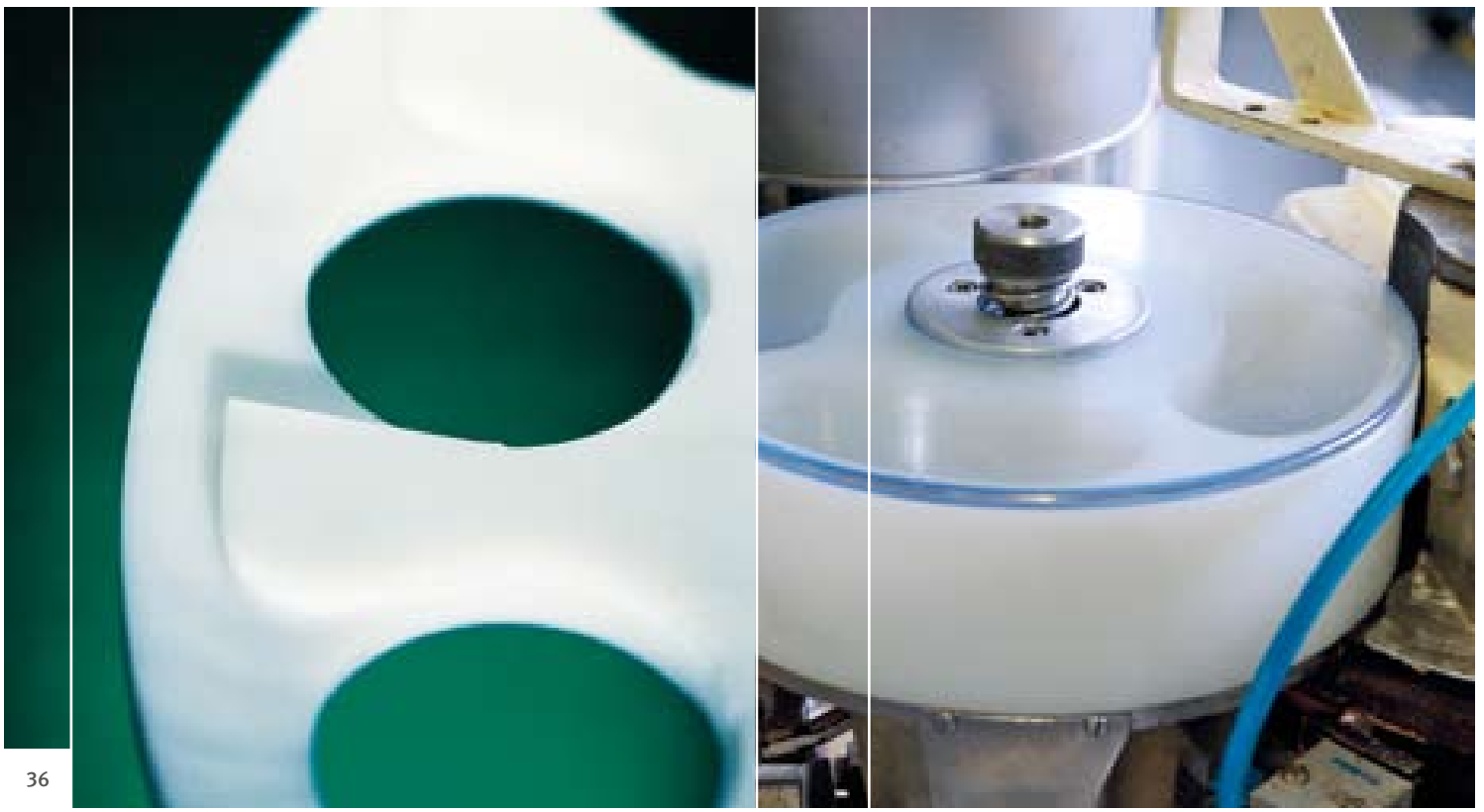
- Better wear resistance than Murylon® B
- Improved tensile and compressive strength
- Better temperature resistance than Murylon® B
- Extremely good fatigue strength
- Low cold flow characteristics
- Approved for use in the food industry (EU and FDA)

POSSIBILITIES OF USE FOR MURYLON® B NATURAL

- Rollers
- Slide bearings
- Parts subject to high impacts and shocks

POSSIBILITIES OF USE FOR MURYLON® A NATURAL

- Rollers
- Slide bearings
- Slide elements
- Components under varying stress
- Parts subject to high impacts and shocks



MURYLON® A GF

Rigid and stable

The properties of this material surpass the already impressive characteristics of Murylon® A. This is possible thanks to admixed glass fibres. The result: A clear improvement in cold flow behaviour and dimensional stability. This enables higher static pressure loads to be endured.

SPECIAL PROPERTIES

- Improved compressive strength
- Excellent cold flow behaviour
- Increased rigidity
- Better dimensional stability than other Murylon® materials
- Can be used at higher temperatures (+120°C)
- Low moisture absorption

MURYLON® 6 CAST

Unilaterally perfect

Murylon® 6 CAST has extremely low levels of residual stress thanks to the casting procedure used to produce it. This material is therefore ideally suited to extensively processed components.

SPECIAL PROPERTIES

- Good impact resistance
- Low cold flow characteristics
- Optimized wear properties (similar to those of Murylon® A)
- Low residual stress
- Flexible production of large-volume products possible
- Good fatigue strength

POSSIBILITIES OF USE FOR MURYLON® A GF

- Highly stressed load-bearing machine parts

POSSIBILITIES OF USE FOR MURYLON® 6 CAST

- Runners
- Slide elements
- Parts subject to high impacts
- Cog and chain wheels
- Pulleys

MURDOPOL®

The best connection

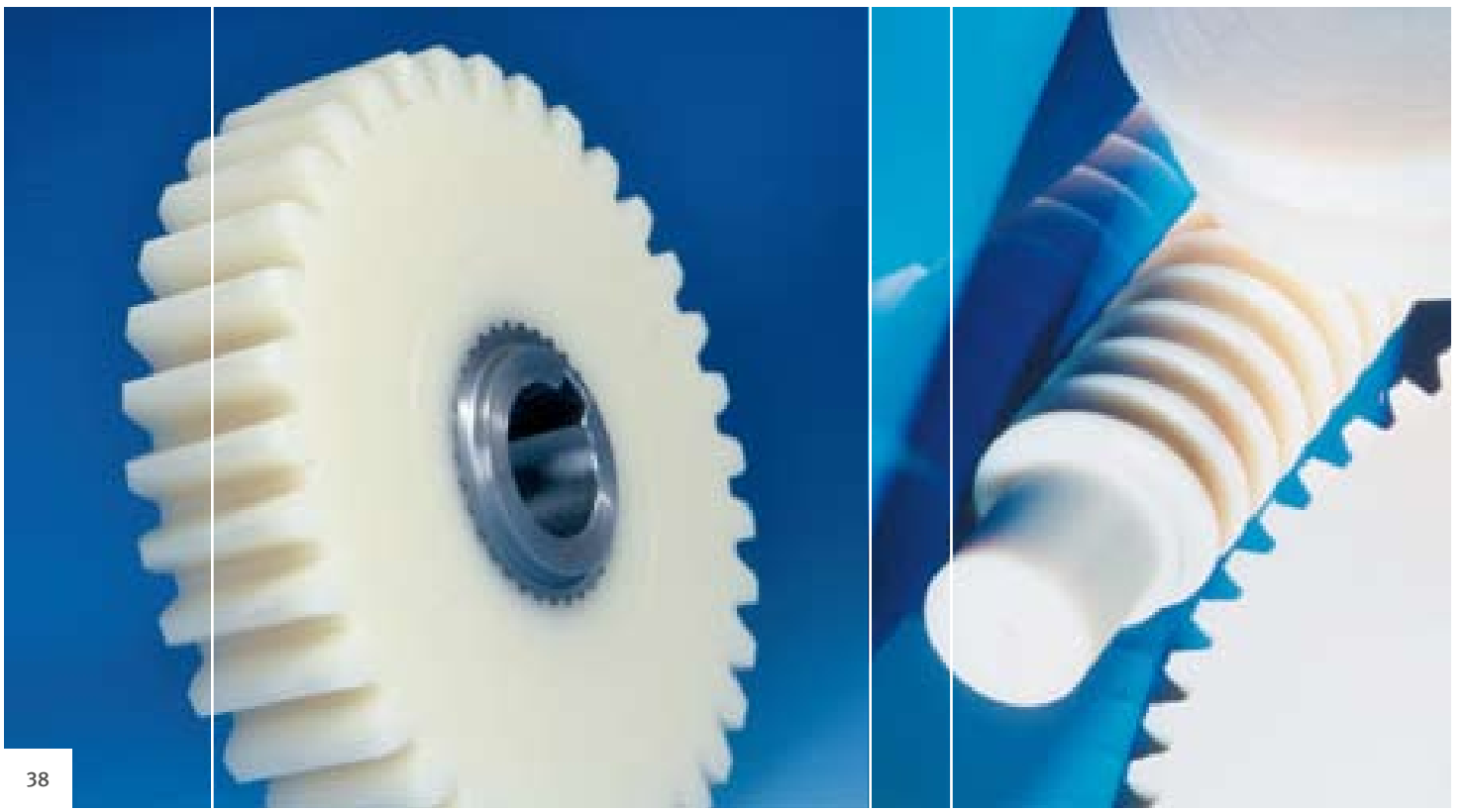
The main advantage of this material is its fantastic ability to create firm plastic/metal connections. This is made possible by the casting procedure used in its production, which involves casting around a steel core. The plastic and metal cutting deformation provides an absolutely accurate rotation for cog wheels and rollers. Murdopol® has extremely high shock and impact resistance characteristics and good emergency running characteristics thanks to its high wear resistance.

SPECIAL PROPERTIES

- Good shock and impact resistance
- Low residual stress
- Metal core surrounded by cast plastic available
- Good damping and vibration behaviour
- Lowest moisture absorption of all polyamides
- Good resistance to chemicals
- Dimensionally stable

POSSIBILITIES OF USE

- Cog wheels with steel core
- Pulleys
- Humid usage sites
- Parts subject to high impacts



MURYTAL® C

Always on form

Thanks to their extremely low absorption of moisture, Murytal® materials are ideally suited for use as electronic isolation components. A fine crystalline structure and high yield strength mean that Murytal® C has a high ability to regain its original form.

SPECIAL PROPERTIES

- High rigidity
- Excellent ability to regain its form
- Extremely good electric isolation properties
- Practically no moisture absorption
- Good resistance to chemicals (pH 4 – 13)
- Approved for use in the food industry (EU and FDA) (Natural)
- Extremely good machinability
- Hydrolysis resistant to 80°C

MURYTAL® H

The harder option

In addition to the excellent properties of Murytal® C, Murytal® H is stronger and more rigid with a lower expansion coefficient.

SPECIAL PROPERTIES

- Higher rigidity than Murytal® C
- Excellent ability to regain its form
- Extremely good electric isolation properties
- Practically no moisture absorption
- Good resistance to chemicals (pH 4 – 9)
- Approved for use in the food industry (EU and FDA)
- Extremely good machinability

MURYTAL® ESD

For conductive tasks

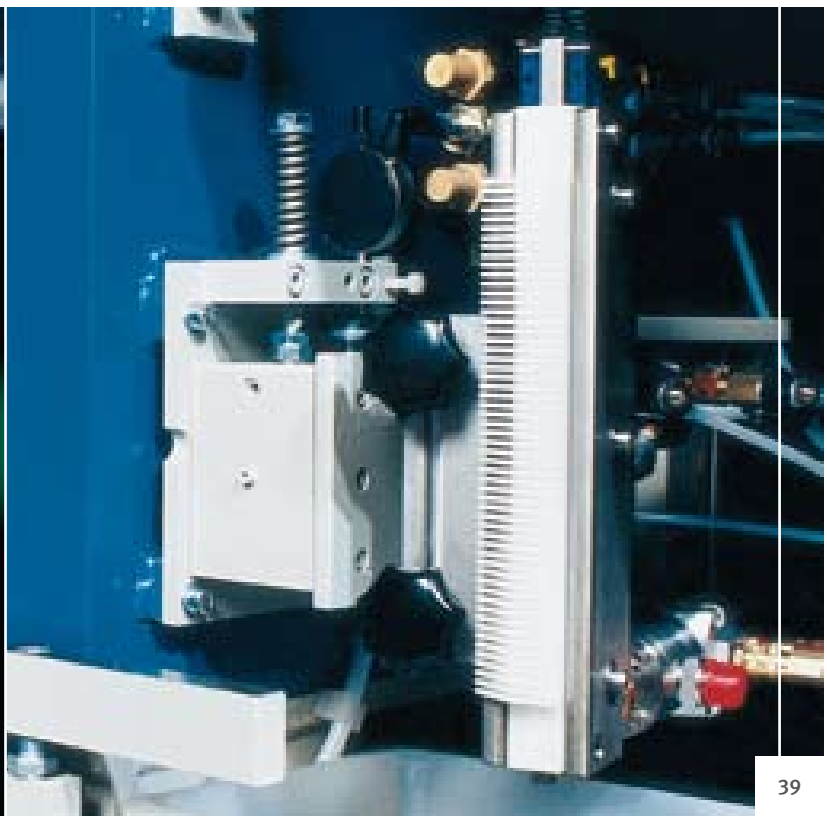
Additives make this material conductive. The mechanical properties of the material are retained almost in their entirety.

SPECIAL PROPERTIES

- Suitable for devices and machines subject to Directive 94/9/EC (ATEX 95)

POSSIBILITIES OF USE FOR ALL MURYTAL® MATERIALS

- Slide elements
- Cog wheels
- Cams
- Snap-on connections



MURYLAT®

In good shape

Thanks to its extremely low absorption of moisture and low expansion coefficient, Murylat® is ideally suited for the processing of precision parts. Murylat® has an extremely high hardness grade and can withstand extreme static stresses exceptionally well.

SPECIAL PROPERTIES

- High creep strength – even at high temperatures
- Very good dimensional stability
- Low moisture absorption
- Approved for use in the food industry (EU and FDA) (Natural)
- Extremely good electric isolation properties

MURYLAT® SP

Even less wear

Murylat® SP combines the properties of Murylat® with improved wear and friction characteristics. It also has increased dynamic resilience which, for example, significantly reduces the required drive power for your plants. This is made possible by the homogeneous distribution of solid lubricant.

SPECIAL PROPERTIES

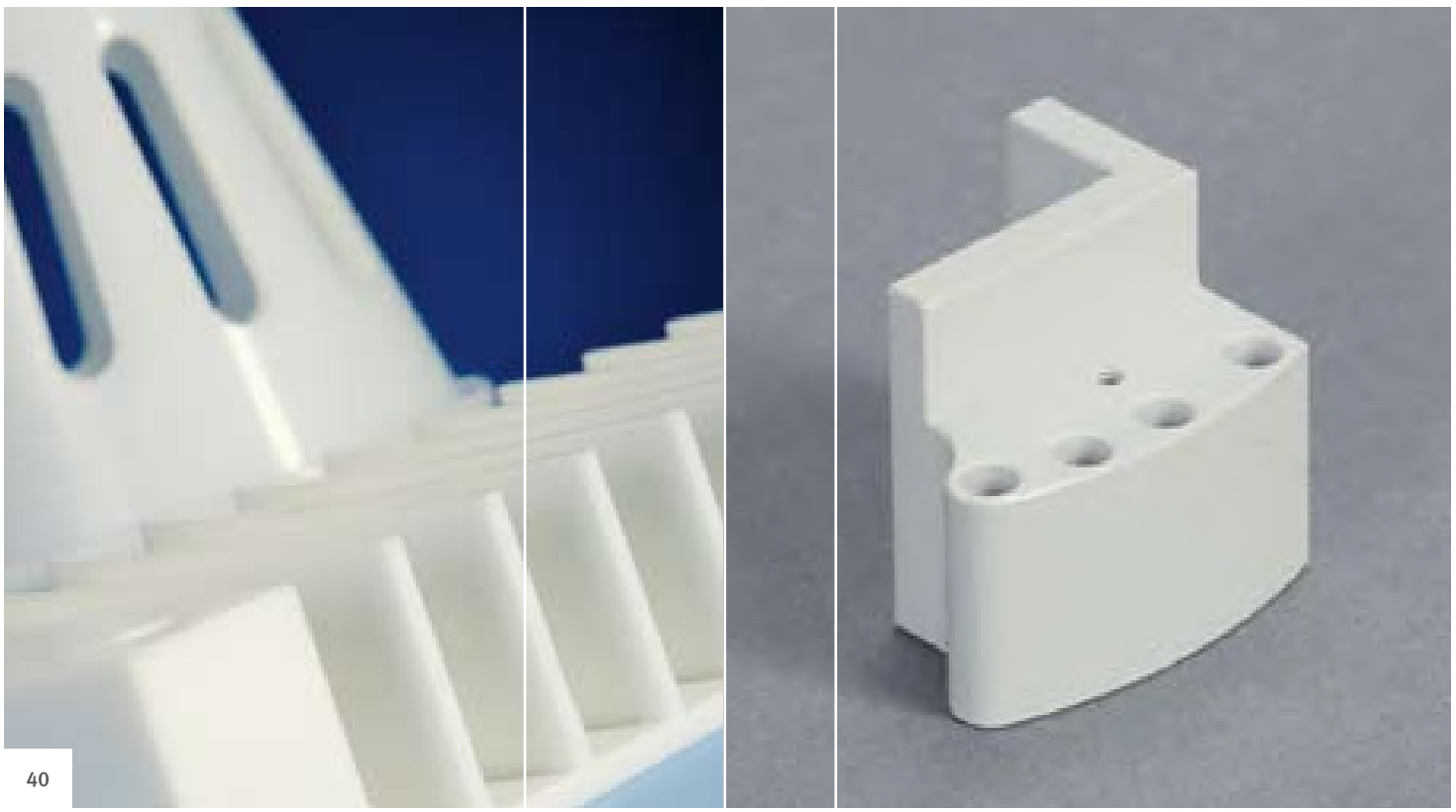
- Increased wear resistance
- Better slide properties
- High creep strength – even at high temperatures
- Very good dimensional stability
- High dynamic load-bearing capacity
- Low moisture absorption
- Approved for use in the food industry (EU and FDA)

POSSIBILITIES OF USE FOR MURYLAT®

- Machine parts with narrow tolerances
- Bearing and transmission elements
- Highly stressed chain guide rails
- Chain wheels

POSSIBILITIES OF USE FOR MURYLAT® SP

- Wear-resistant, highly stressed slide elements with narrow tolerances
- Bushes/sliding bearings
- Guides



MURYLON® HT

For when it gets hot

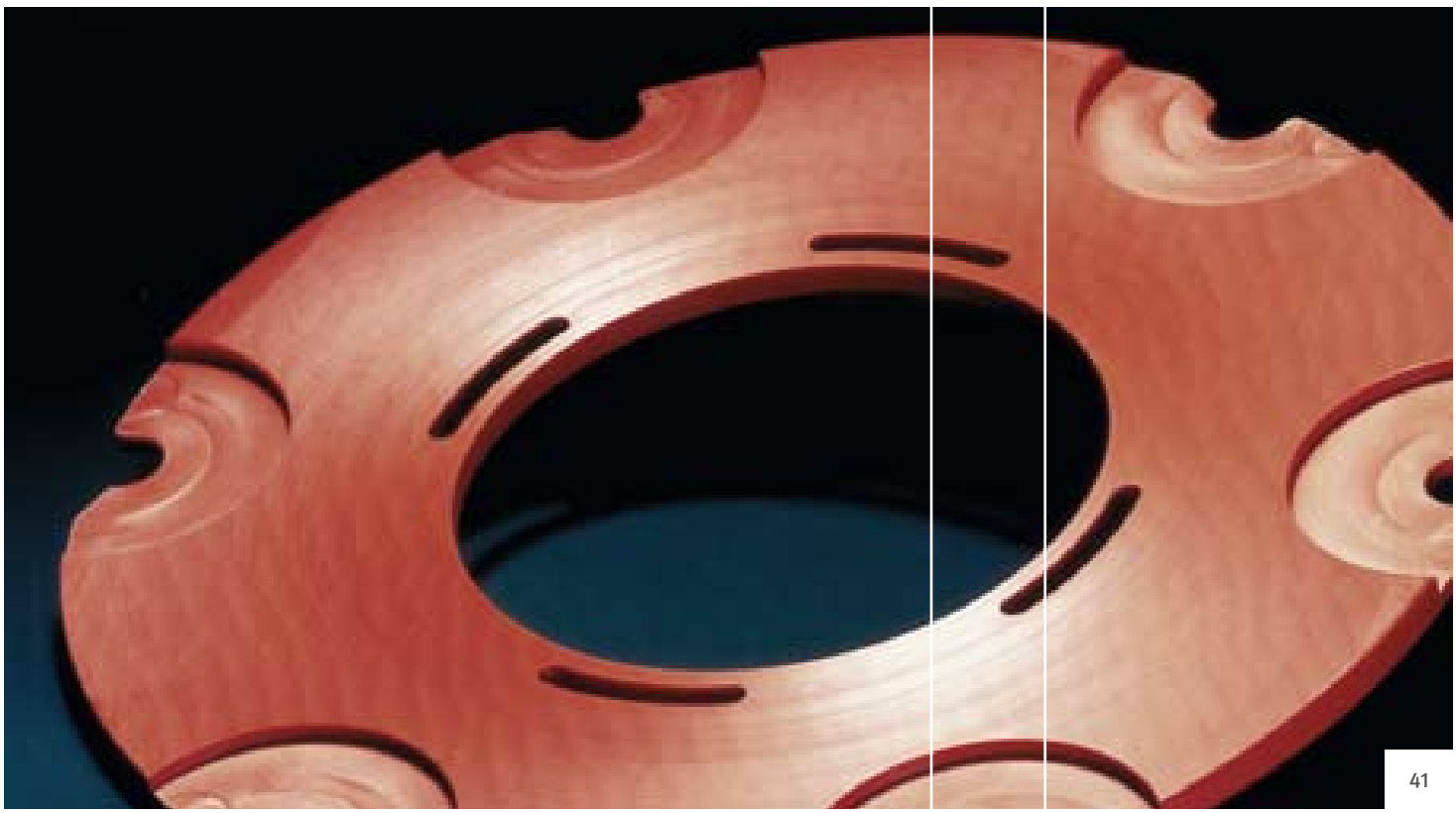
The use of this highly temperature-resistant polyamide enables reliable operation up to a constant service temperature of +155°C. The material retains its rigidity and creep strength over the entire temperature range far better than other Murylon® types. Thanks to its increased resistance against oxidative degradation, it is usually used in applications at above +80°C.

SPECIAL PROPERTIES

- Highly wear-resistant and good slide properties, especially at high temperatures
- Good resistance to thermal aging
- High creep resistance

POSSIBILITIES OF USE

- Sliding bearings
- Chain guide rails and guides for use at high temperatures



MURINYL®

Clean work

This material is ideally suited for use in the food sector and medical industry. As a fluorinated plastic, Murinyl® is exceptionally resistant to chemicals, hydrolysis, and sterilization. Moreover, the properties of the material change very little even at high service temperatures and after long-term exposure to UV radiation, meaning that Murinyl® is ideally suited for a wealth of applications both inside and outside.

SPECIAL PROPERTIES

- Good wear resistance
- Good rigidity
- Higher compressive strength than Murflor®
- High constant service temperature
- Good resistance to chemicals
- Resistant to sterilization
- No stress corrosion possible
- Very good resistance to UV rays and adverse weather conditions
- No moisture absorption
- Approved for use in the food industry (EU and FDA)

POSSIBILITIES OF USE

- Construction of chemical apparatus
- Valve and pump parts
- Pharmaceutical and food sectors

MURFLOR®

Practically frictionless

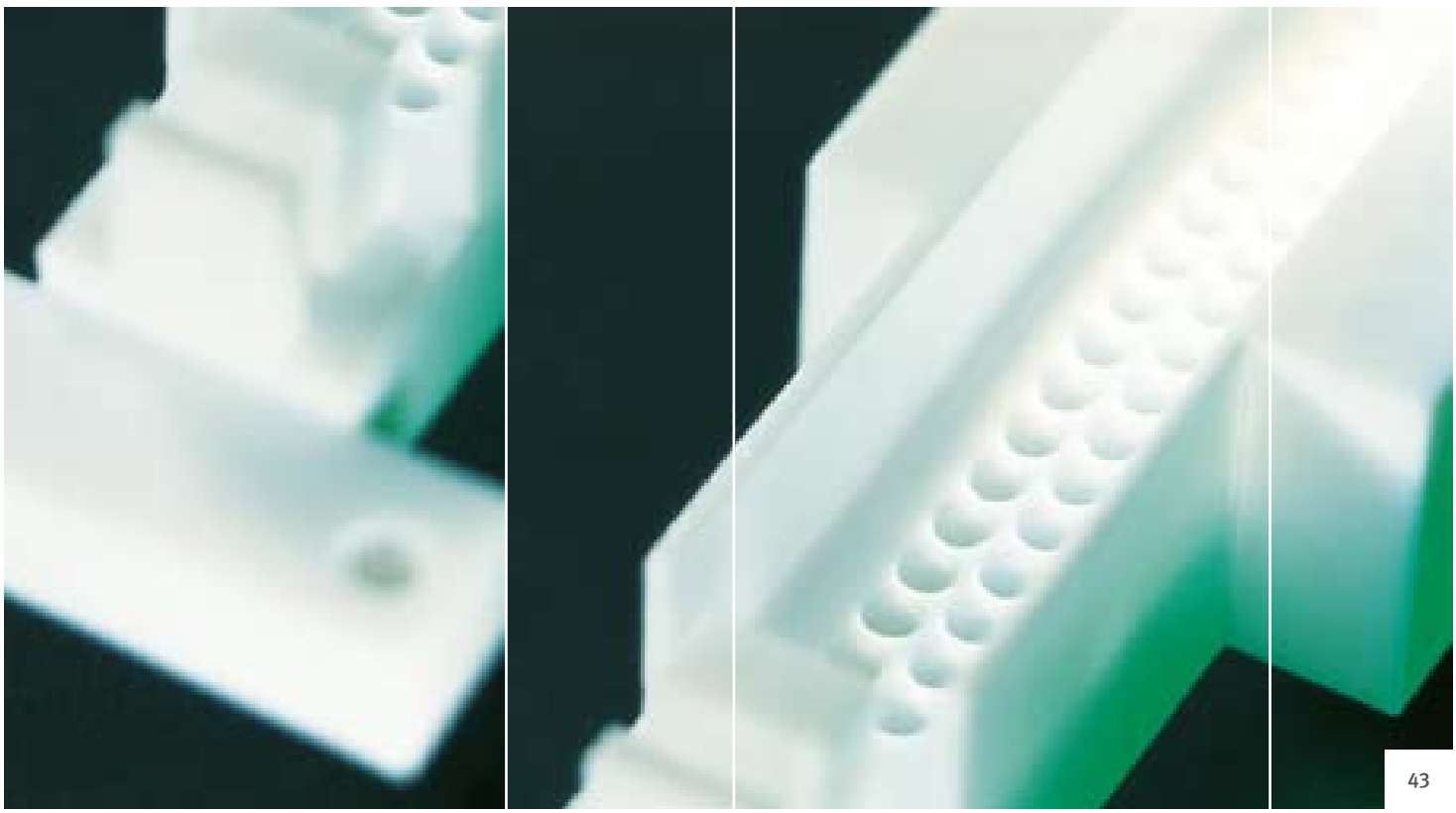
Murflor® materials are ideally suited to use in applications that require an excellent resistance to chemicals and heating steam. Murflor®'s working range starts at -200°C and can extend to +260°C with no mechanical load. Murflor® also has the lowest dynamic friction coefficient of all thermoplastics.

SPECIAL PROPERTIES

- Best dynamic friction properties of all thermoplastics
- No stick/slip effect
- Very good anti-adhesion properties
- Electrically isolating
- Very high resistance to chemicals
- Very high resistance to hydrolysis
- Very tough, even at low temperatures
- Approved for use in the food industry (EU and FDA)

POSSIBILITIES OF USE

- Construction of chemical apparatus
- Sliding guides and seals for use at high temperatures
- Slide bearings



MURFLOR® + Carbon

A reliable, antistatic material

The integration of 25% carbon increases the wear resistance, hardness, and creep strength of this material. Murflor® + Carbon is used, for example, when electrical conductivity is required and Material "S"® Black Antistatic cannot be used because the ambient temperature is too high.

SPECIAL PROPERTIES

- Higher wear resistance than Murflor®
- Very good slide properties
- Low stick/slip effect
- Electrically conductive
- Suitable for devices and machines subject to Directive 94/9/EC (ATEX 95)

POSSIBILITIES OF USE

- Sliding guides and slide bearings

MURFLOR® + Bronze

A matter of form

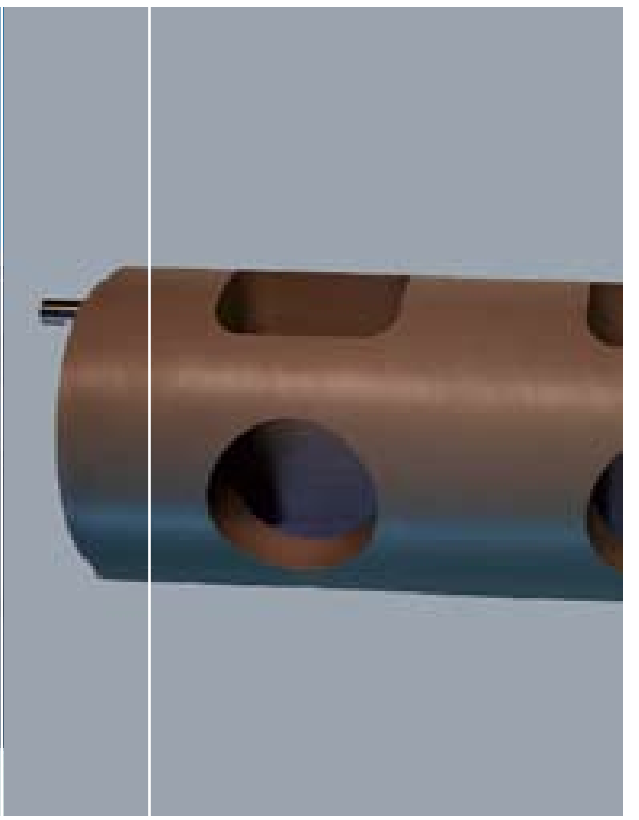
The addition of 60% bronze to the base material reduces the expansion coefficient and gives lower sliding wear.

SPECIAL PROPERTIES

- Lower sliding wear than Murflor®
- Good slide properties
- Low stick/slip effect
- Higher compressive strength than Murflor®

POSSIBILITIES OF USE

- Sliding guides and slide bearings



MURDOTEC® SP

Stable and universal

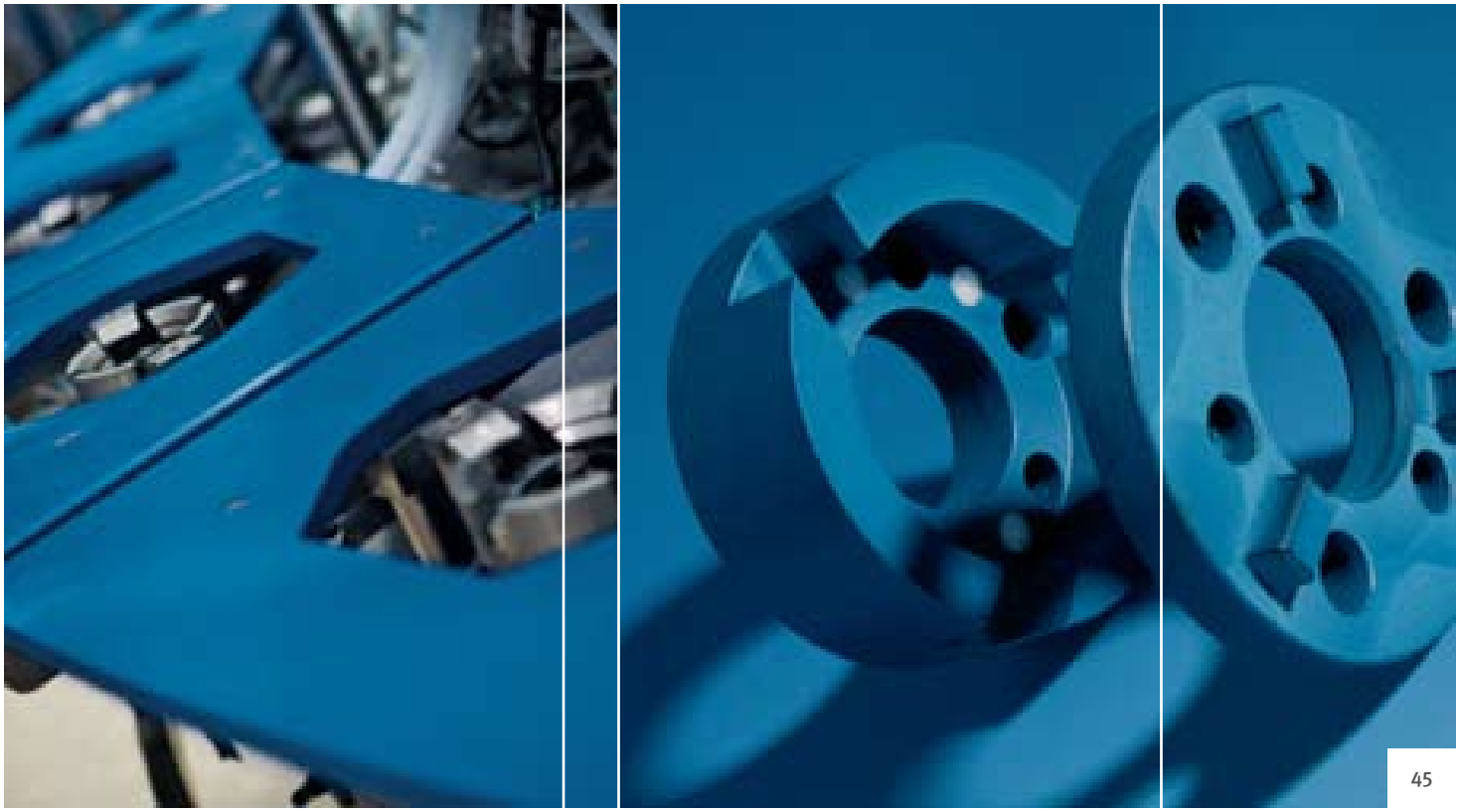
Thanks to the low fibre content and integrated solid lubricant, this high-performance material offers an excellent combination of good slide and wear behaviour, high strength, and dimensional stability – even at high temperatures. Murdotec® SP also has a good resistance to chemicals and hydrolysis.

SPECIAL PROPERTIES

- High wear resistance
- Good slide properties
- Good resistance to chemicals and hydrolysis
- Excellent creep and compressive strength
- Good electrical isolation properties
- Low thermal expansion coefficient
- Approved for use in the food industry (EU and FDA)

POSSIBILITIES OF USE

- Wear parts subject to temperature stress
- Slide elements



MURPEC®

Always on form

In comparison with other thermoplastics, Murpec® has an exceptionally low thermal expansion coefficient. This property provides optimum dimensional stability and means that dimensions do not change even if used in wet environments. Because of the high glass transition temperature, the material's rigidity and strength are retained almost in their entirety even at high temperatures. Murpec® materials are extremely resistant to deformation and exceptionally abrasion-proof.

SPECIAL PROPERTIES

- High wear resistance
- Low expansion coefficient
- Electrically isolating
- High temperature resistance
- Flame-resistant
- High compressive strength
- High resistance to energy radiation
- Excellent resistance to chemicals and heating steam
- Approved for use in the food industry (EU and FDA)

POSSIBILITIES OF USE

- Sliding guides
- Cog wheels
- Parts subject to temperature stress

MURPEC® SP

For improved sliding

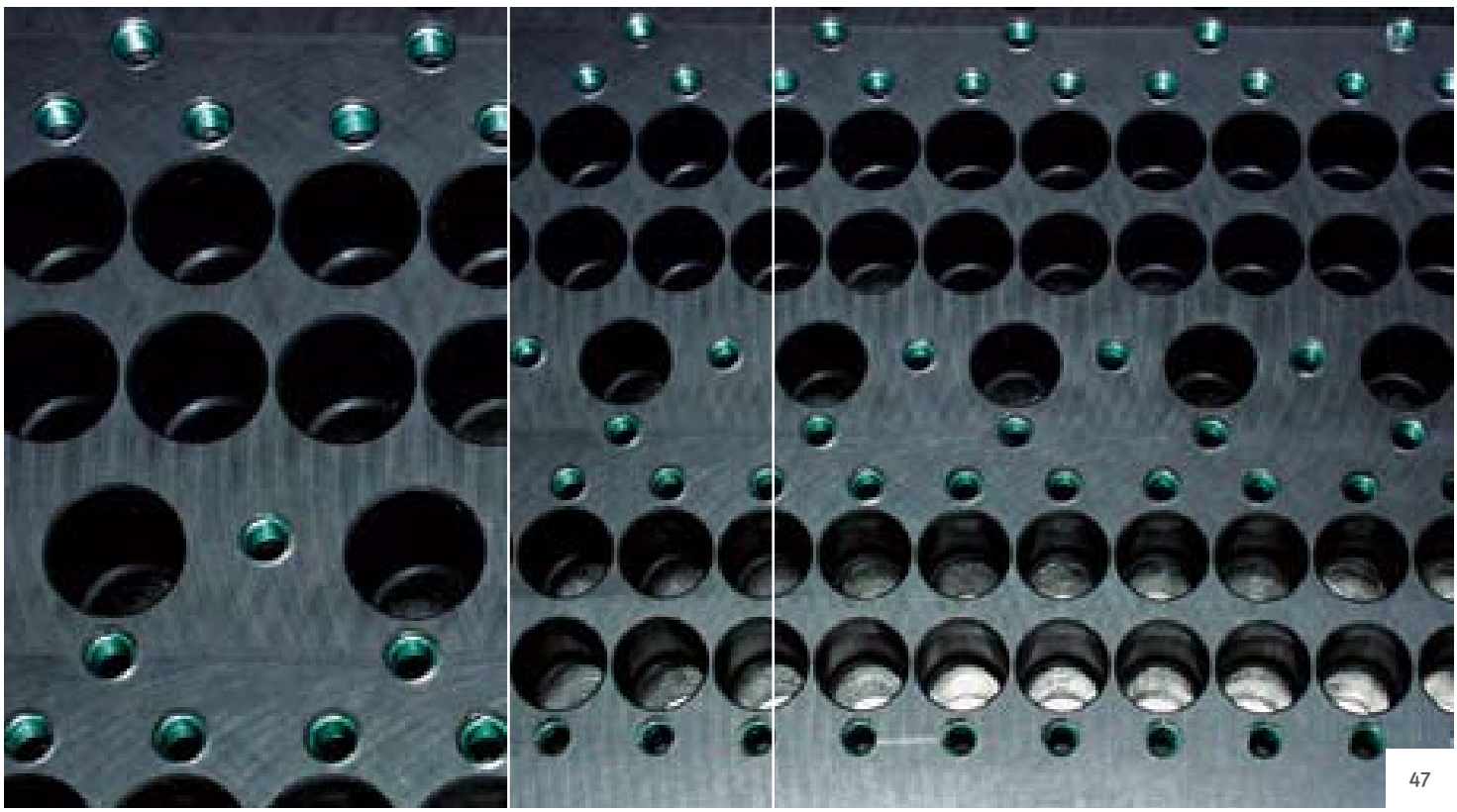
Modified Murpec® SP provides excellent slide properties in addition to good mechanical properties. This material variant also offers improved wear behaviour due to its special additives.

SPECIAL PROPERTIES

- Better slide properties
- Increased wear resistance
- Very low expansion coefficient
- High temperature resistance
- Flame-resistant
- High compressive strength
- High resistance to energy radiation
- Excellent resistance to chemicals and heating steam

POSSIBILITIES OF USE

- Highly-stressed wear parts
- Sliding guides
- Slide bearings



SHEET DIMENSIONS

Materials	Thickness	Width	Length	Thickness tolerance	Availability
Original Material "S"® Green	2/3/4/5/6	1000	2000	+0/+0.8	●
	8 – 200	1000	2000	+0/+0.6	●
	2/4	1200	3000	+0/+0.8	○
	3/5/6	1200	3000	+0/+0.8	●
	8 – 60	1000	3000	+0/+0.6	●
	65 – 120	1000	3000	+0/+0.6	○
	10 – 50	1000	4000	+0/+0.6	○
Original Material "S"® Natural	2/3/4/5/6	1000	2000	+0/+0.8	●
	8 – 100	1000	2000	+0/+0.6	●
	110 – 200	1000	2000	+0/+0.6	○
	2/3/4/5/6	1200	3000	+0/+0.8	○
	8	1000	3000	+0/+0.6	○
	10 – 20	1000	3000	+0/+0.6	●
	25 – 120	1000	3000	+0/+0.6	○
Original Material "S"® Black Antistatic	2/3/4/5/6	1000	2000	+0/+0.8	●
	8 – 200	1000	2000	+0/+0.6	●
	2/3/4	1200	3000	+0/+0.8	○
	5/6	1200	3000	+0/+0.8	●
	8 – 50	1000	3000	+0/+0.6	●
	55 – 120	1000	3000	+0/+0.6	○
	10 – 50	1000	4000	+0/+0.6	○
Material "S"®1000 Green	2/3/4	1000	2000	+0/+0.8	○
	5/6	1000	2000	+0/+0.8	●
	8 – 110	1000	2000	+0/+0.6	●
	120 – 160	1000	2000	+0/+0.6	○
	2/3/4/5/6	1200	3000	+0/+0.8	○
	8	1000	3000	+0/+0.6	○
	10 – 50	1000	3000	+0/+0.6	●
	55 – 110	1000	3000	+0/+0.6	○
	10 – 50	1000	4000	+0/+0.6	○
Material "S"®1000 Black Antistatic	2/3/4/5	1000	2000	+0/+0.8	○
	6	1000	2000	+0/+0.8	●
	8 – 110	1000	2000	+0/+0.6	●
	120–160	1000	2000	+0/+0.6	○
	2/3/4/5/6	1200	3000	+0/+0.8	○
	8	1000	3000	+0/+0.6	○
	10 – 40	1000	3000	+0/+0.6	●
	50 – 110	1000	3000	+0/+0.6	○
	10 – 50	1000	4000	+0/+0.6	○
Original Material "S"®8000	8 – 80	1000	2000	+0/+0.6	●
	90 – 160	1000	2000	+0/+0.6	○
Original Material "S"® plus + GB	8/10 – 40	1000	2000	+0/+0.6	●
	50 – 110	1000	2000	+0/+0.6	○
Original Material "S"® plus + OIL	8/10 – 40	1000	2000	+0/+0.6	●
	50 – 110	1000	2000	+0/+0.6	○
Original Material "S"® plus + ESD	8/10 – 40	1000	2000	+0/+0.6	●
	50 – 110	1000	2000	+0/+0.6	○
Original Material "S"® plus + Bright ESD	8/10 – 40	1000	2000	+0/+0.6	●
	50 – 110	1000	2000	+0/+0.6	○
Original Material "S"® plus + AB	8/10 – 40	1000	2000	+0/+0.6	●
	50 – 110	1000	2000	+0/+0.6	○

SHEET DIMENSIONS

Materials	Thickness	Width	Length	Thickness tolerance	Avail-ability
Muralen® Natural	2 – 6	1000	2000	As per DIN EN 14632	●
	8 – 100	1000	2000	+0/+0.6	●
Muralen® plus + AB	8 – 110	1000	2000	+0/+0.6	○
Murlubric®	8 – 100	1000	2000	+0/+0.6	●
	110 – 160	1000	1000	+0/+0.6	○
Murylon® B Natural	3 – 60	1000	2000	As per DIN 16986	●
	70 – 100	610	2000	As per DIN 16986	●
Murylon® A Natural	8 – 60	610	2000	As per DIN 16986	○
Murylon® A GF	10 – 100	625	2000	As per DIN 16986	○
Murylon® 6 Cast Natural	8 – 100	1000	2000	As per DIN 16986	●
Murdopol®	10 – 100	1000	2000	As per DIN 16986	○
Murytal® C Natural	3 – 8	1000	2000	As per DIN 16986	●
	10 – 60	1000	2000	As per DIN 16986	●
	70 – 100	610	2000	As per DIN 16986	●
Murytal® C Black	5 – 8	1000	2000	As per DIN 16986	●
	10 – 60	1000	2000	As per DIN 16986	●
	70 – 100	610	2000	As per DIN 16986	●
Murytal® H Natural	8 – 50	610	2000	As per DIN 16986	○
Murytal® ESD	12 – 40	500	2000	As per DIN 16986	○
Murylat® Natural	8 – 100	610	2000	As per DIN 16986	○
Murylat® SP	8 – 100	610	2000	As per DIN 16986	○
Murylon® HT	10 – 40	610	2000	As per DIN 16986	●
	50	500	2000	As per DIN 16986	●
Murinyl®	10 – 80	610	2000	As per DIN 16986	○
Murflor®	3 – 50	1000	1000	As per GKV[1)]	●
	10 – 20	500	2000	As per GKV	●
Murflor® Carbon	10 – 40	1000	1000	As per GKV	○
Murflor® Bronze	10 – 40	1000	1000	As per GKV	○
Murdotec® SP	8/10	525	1000/2000	As per DIN 16986	○
	12 – 50	625	1000/2000	As per DIN 16986	○
Murpec®	5 – 25	1000	1000/2000	As per DIN 16986	○
	30 – 60	615	1000/2000	As per DIN 16986	○
Murpec® SP	5/6/8/10	525	1000/2000	As per DIN 16986	○
	16/18/20/25	625	1000/2000	As per DIN 16986	○
	30/35/40/45/50	625	1000/2000	As per DIN 16986	○

Sheet sizes in mm
Tolerances: Widths and lenghts ≥ + 0 mm or as per DIN 16986
Other colours and dimensions (thickness x width x length) and other pre-cut parts on request

1) German Federation of Plastics Processing Industries

● Stocked
○ Available within 10 days

For currently available sizes, see www.murtfeldt.com

ROD DIMENSIONS

Materials	Diameter	Graduations	Length	Ø tolerance	Avail-ability
Original Material "S"® Green	10 – 100	5	1000	+0/+1	●
Semi-finished product as per DIN 16972 sheet group 2	100 – 200	10	1000	+0/+1	●
Original Material "S"® Natural	10 – 30	5	1000	+0/+1	●
Semi-finished product as per DIN 16972 sheet group 2	30 – 170	10	1000	+0/+1	●
	170 – 200	10	1000	+0/+1	○
Original Material "S"® Black Antistatic	10 – 100	5	1000	+0/+1	●
Semi-finished product as per DIN 16972 sheet group 2	100 – 200	10	1000	+0/+1	●
Material "S"®1000 Green	10 – 25	5	1000	+0/+1	○
	25 – 40	5	1000	+0/+1	○
	40 – 150	10	1000	+0/+1	○
Material "S"®1000 Black Antistatic	10 – 25	5	1000	+0/+1	○
	25 – 40	5	1000	+0/+1	○
	40 – 150	10	1000	+0/+1	○
Original Material "S"®8000	10 – 60	5	1000	+0/+1	○
	70 – 120	10	1000	+0/+1	○
Original Material "S"® plus + GB	20 – 40	10	1000	+0/+1	○
Original Material "S"® plus + OIL	20 – 40	10	1000	+0/+1	○
Original Material "S"® plus + ESD	20 – 40	10	1000	+0/+1	○
Original Material "S"® plus + Bright ESD	20 – 40	10	1000	+0/+1	○
Original Material "S"® plus + AB	20 – 40	10	1000	+0/+1	○
Muralen® Natural	20 – 25	5	1000	As per DIN 16980	○
	30 – 60	5	1000	+0/+1	○
Murlubric®	10 – 100	5	1000	≥ +0 mm	●
	100 – 200	10	1000	≥ +0 mm	●
Murylon® B Natural	5 – 40	#	1000	As per DIN 16980	●
	40 – 100	5	1000	As per DIN 16980	●
	100 – 200	10	1000	As per DIN 16980	●
Murylon® A Natural	5 – 40	#	1000	As per DIN 16980	○
	40 – 100	5	1000	As per DIN 16980	○
	100 – 200	10	1000	As per DIN 16980	○
Murylon® A	10 – 30	5	1000	As per DIN 16980	○
	30 – 200	10	1000	As per DIN 16980	○
Murylon® 6 Cast Natural	50 –150	5	1000	As per DIN 16980	○
	150 – 200	10	1000	As per DIN 16980	○
Murdopol® (rods with and without steel core)	50 – 200	10	500	As per DIN 16980	○
Murytal® C Natural	3 – 40	#	1000	As per DIN 16980	●
	40 – 100	5	1000	As per DIN 16980	●
	100 – 200	10	1000	As per DIN 16980	●
Murytal® C Black	5 – 40	#	1000	As per DIN 16980	●
	40 – 100	5	1000	As per DIN 16980	●
	100 – 180	10	1000	As per DIN 16980	●
Murytal® H Natural	5 – 40	#	1000	As per DIN 16980	○
	40 – 100	5	1000	As per DIN 16980	○
	100 – 200	10	1000	As per DIN 16980	○
Murytal® ESD	30 – 60	10	1000	As per DIN 16980	○

Rod sizes in mm
Tolerances: Widths and lengths ≥ + 0 mm
or as per DIN 16986

Other colours and dimensions (diameter and length) and other pre-cut parts and round discs on request.
Irregular graduations; please state required ø. We will provide you with the suitable/next largest ø.

● Stocked
○ Available within 10 days

ROD DIMENSIONS

Materials	Diameter	Graduations	Length	Ø tolerance	Avail-ability
Murylat® Natural	10 – 210	#	1000	As per DIN 16980	○
Murylat® SP	10 – 150	#	1000	As per DIN 16980	○
Murylon® HT	10 – 30	5	1000	As per DIN 16980	○
	30 – 60	10	1000	As per DIN 16980	○
Murinyl®	10 – 200, 250	#	1000	As per DIN 16980	○
Murflor®	10 – 100	5	1000	As per GKV	●
	100 – 120	10	1000	As per GKV	●
Murflor® + Carbon	10 – 100	10	on request	As per GKV	○
Murflor® + Bronze	10 – 100	10	on request	As per GKV	○
Murdotec® SP	10 – 100	#	1000	As per DIN 16980	○
Murpec®	6 – 12	2	1000	As per DIN 16980	○
	16 – 22	2	1000	As per DIN 16980	○
	25 – 200	#	1000	As per DIN 16980	○
Murpec® SP	6 – 12	2	1000	As per DIN 16980	○
	16 – 100	#	1000	As per DIN 16980	○

Rod sizes in mm
Tolerances: Widths and lengths ≥ + 0 mm
or as per DIN 16986

Other colours and dimensions (diameter and length) and other pre-cut parts and round discs on request.
Irregular graduations; please state required ø. We will provide you with the suitable/next largest ø.

● Stocked
○ Available within 10 days

For currently available sizes, see www.murtfeldt.com

INFORMATION ON MATERIALS

The material characteristic tables, which are based on data from our suppliers of raw materials, are intended to help you to quickly compare/select a material. The values stated are short-term values that can be affected by processing, environmental, and application conditions. The customer is solely responsible for the suitability of the selected material for the specific application.

LEGEND

+ Dry
++ Air-moist (saturation in standard atmosphere of 23°C / 50% RH)
RH Relative humidity
NB No break

1) Temperature stress for several hours; no or low mechanical stress (short-term service temperature)
2) Temperature stress for 5000h; then reduction (approx 50%) of tensile strength of initial value (constant: for 5000h)
3) As the temperature decreases, the impact strength drops. The specified values are based on the most unfavourable impact load possible and do not represent absolute practical limits (lower service temperature)
4) The mechanical and electrical characteristics are based on a test temperature of 23°C
5) The electric strength can be up to 50% lower than for natural coloured materials (for black Murylon® B, Murylon® A, Murytal® C/H, and Murylat®)
6) In the case of materials marked with "+", raw materials that meet the requirements of Directive 2002/72/EC, the German Federal Institute for Risk Assessment, and the FDA directives are used (approved for use in the food industry)
7) Sheet group classification as per DIN 16972

Chemical resistance of our materials:
For a detailed selection chart, see our Internet pages at www.murtfeldt.com.

TECHNICAL MATERIALS - PART 1

Characteristics

	Standard	Unit	Original Material "S"®	Original Material "S"® Black Antistatic	Material "S"®1000 Green
Material colour	-	-	Green/white	Black	Green
Catalogue page	-	-	26	26	27
Code	ISO 1043-1	-	PE-UHM	PE-UHM	PE-UHM
Average molecular weight [7]	-	g/mol	~5 x 10^6	~5 x 10^6	-
Density	ISO 1183	kg/dm^3	≥ 0.93	≥ 0.93	≥ 0.93
Water absorption – saturation in standard atmosphere 23°C / 50% RH	ISO 62	%	< 0.01	< 0.1	< 0.01
– saturation in water		%	< 0.01	< 0.1	< 0.01
Mechanical properties [4]					
Yield/break stress	ISO 527	MPa	≥ 17/-	≥ 17/-	≥ 15/-
Breaking elongation	ISO 527	%	≥ 300	≥ 300	≥ 200
Coefficient of elasticity (pulling test)	ISO 527	MPa	700	700	950
Pressure test – compression strength at 1/2/5% nominal compression	ISO 604	MPa	4.5/8/14	5/9/15	6/10.5/18
Impact strength (Charpy)	ISO 179	kJ/m^2	NB	NB	NB
Notch impact toughness (Charpy)	ISO 179	kJ/m^2	≥ 170	≥ 170	≥ 80
Indentation hardness	ISO-2039-1	MPa	38	40	38
Shore hardness D	DIN 53505	°	66	64	61-65
Coefficient of sliding friction (dry)	-	-	0.1-0.2	0.1-0.2	0.1-0.2
Sand Slurry test	ISO 15527	%	100	110	130
Thermal properties					
Melting temperature	ISO 3146	°C	130-135	130-135	130-135
Glass transition temperature	-	°C	-120	-120	-120
Heat conductivity at 23°C	ISO 52612	W/(K x m)	0.4	0.4	0.4
Linear thermal coefficient of expansion α:	ISO 11359				
– Average value between 23 and 60°C		m/(m x K)	20 x 10^{-5}	20 x 10^{-5}	20 x 10^{-5}
Upper service temperature in air:					
– Short-term service temperature [1]	-	°C	90	90	90
– Constant: for 5000h [2]	-	°C	80	80	80
Lower service temperature [3]	-	°C	-200	-200	-150
Burning behaviour as per UL94 – sample thickness 3/6mm	-	-	HB	HB	HB
Electrical properties [4]					
Electric strength [5]	IEC 60243	kV/mm	≥ 45	-	-
Specific contact resistance	IEC 60093	Ohm x cm	> 10^{14}	≤ 10^6	> 10^{14}
Surface resistance	IEC 60093	Ohm	> 10^{13}	≤ 10^9	> 10^{13}
Relative permittivity: – At 100Hz	IEC 60250	-	2.1	-	-
– At 1MHz	IEC 60250	-	3.0	-	-
Dielectric loss factor tan δ: – At 100Hz	IEC 60250	-	0.00039	-	-
– At 1MHz	IEC 60250	-	-	-	-
Physiological properties [6]					
Approved for use in the food industry (EU and FDA)	-	-	+	+	-

Material"S"® 1000 Black Antistatic	Original Material"S"® 8000	Original Material"S"® plus+GB	Original Material"S"® plus+OIL	Original Material"S"® plus+ESD	Original Material"S"® plus+Bright ESD	Original Material"S"® plus+AB	Muralen®/ Muralen®plus+AB
Black	Anthracite	Light green	Aqua	Black	Light grey	Sky blue	White/light blue
27	28	29	30	31	32	33	34
PE-UHM	PE-UHM	PE-UHM	PE-UHM	PE-UHM	PE-UHM	PE-UHM	PE-HM
-	~9 x 10^6	~9 x 10^6	~9 x 10^6	~5 x 10^6	~5 x 10^6	~5 x 10^6	~0.5 x 10^6
≥ 0.93	0.96	≥ 0.94	≥ 0.93	≥ 0.93	≥ 0.93	0.93	0.95
‹ 0.1	‹ 0.01	‹ 0.01	‹ 0.01	‹ 0.1	‹ 0.01	‹ 0.01	‹ 0.01
‹ 0.1	‹ 0.01	‹ 0.01	‹ 0.01	‹ 0.1	‹ 0.01	‹ 0.01	‹ 0.01
≥ 15/-	21/-	≥ -/29	≥ 19/25	≥ 20/25	≥ 20/25	≥ 17	20/-
≥ 150	360	≥ 300	≥ 380	≥ 370	≥ 370	› 300	› 600
950	750	700	570	750	750	700	1100
6/10.5/18	-	9.5/15/24	4.5/8/14	6/10.5/18	6/10.5/18	4.5/8/14	9/15/23
NB	NB	NB	NB	NB	NB	NB	NB
≥ 80	≥ 170	≥ 100	≥ 170	≥ 120	≥ 120	≥ 170	≥ 25
38	43	44	38	38	38	38	45
61-63	65	65	63	63	63	66	67
0.1-0.2	0.08-0.12	0.1-0.2	0.1-0.15	0.1-0.2	0.1-0.2	0.2	0.25
130	90	80	80	110	120	100	350
130-135	130-135	130-135	130-135	130-135	130-135	130-135	130-135
-120	-120	-120	-120	-120	-120	-120	-120
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
20 x 10^{-5}	17 x 10^5	17 x 10^{-5}	20 x 10^{-5}	20 x 10^{-5}	20 x 10^{-5}	20 x 10^5	20 x 10^{-5}
90	90	90	90	90	90	90	90
80	80	80	80	80	80	80	80
-150	-200	-200	-200	-150	-150	-200	-100
HB	HB	HB	HB	HB	HB	HB	HB
-	≥ 45	≥ 45	≥ 45	-	-	≥ 45	≥ 45
≤ 10^6	› 10^{16}	› 10^{15}	› 10^{15}	≤ 10^4	≤ 10^5	› 10^{14}	› 10^{14}
≤ 10^9	› 10^{13}	› 10^{13}	› 10^{13}	≤ 10^4	≤ 10^5	› 10^{13}	› 10^{13}
-	-	-	-	-	-	-	2.4
-	-	-	-	-	-	-	2.4
-	-	-	-	-	-	-	0.0002
-	-	-	-	-	-	-	0.0002
-	-	+	+	+	-	+	+

TECHNICAL MATERIALS - PART 2

Characteristics

		Standard	Unit	Murlubric®	Murylon® B
Material colour		-	-	Black	White
Catalogue page		-	-	35	36
Code		ISO 1043-1	-	PA 6-Cast Oil	PA 6
Density		ISO 1183	kg/dm³	1.14	1.14
Water absorption		ISO 62			
– after 24 / 96h storage in water at 23°C			%	0.6/1.2	1.28/2.5
– saturation in standard atmosphere of 23°C / 50% RH			%	2	2.6
– saturation in water			%	6.3	9
Mechanical properties[4]					
Yield/break stress	+	ISO 527	MPa	80/-	76/-
	++			50/-	45/-
Breaking elongation	+	ISO 527	%	50	› 50
	++			-	› 100
Coefficient of elasticity	+	ISO 527	MPa	3000	3250
(pulling test)	++			1700	1400
Pressure test – compression strength at 1/2/5 % nominal compression	+	ISO 604	MPa	22/43/79	24/46/80
Time-dependent creep tensile test, stress leading to an	+	ISO 899	MPa	-	18
elongation of 1% after 1000h at 23°C	++		MPa	-	7
Impact strength (Charpy)	+	ISO 179	kJ/m²	NB	NB
Notch impact toughness (Charpy)	+	ISO 179	kJ/m²	›50	5.5
Indentation hardness	+	ISO 2039-1	-	140	150
Shore hardness D	+	DIN 53505	MPa	75	76
Coefficient of sliding friction (dry)	+	-	-	0.18	0.35
Sand Slurry test	+	-	µm/km	0.05	0.23
Thermal properties					
Melting temperature		ISO 3146	°C	220	220
Glass transition temperature		-	°C	50	50
Heat conductivity at 23°C		ISO 52612	W/(K x m)	0.23	0.28
Linear thermal coefficient of expansion α:		ISO 11359			
– Average value between 23 and 60°C		-	m/(m x K)	8×10^{-5}	9×10^{-5}
– Average value between 23 and 100°C		-	m/(m x K)	9×10^{-5}	10.5×10^{-5}
Upper service temperature in air:					
– Short-term service temperature[1]		-	°C	165	160
– Constant: for 5000h[2]		-	°C	105	85
Lower service temperature[3]		-	°C	-40	-40
Burning behaviour as per UL94 – sample thickness 3/6mm		-	-	HB/HB	HB/HB
Electrical properties[4]					
Electric strength[5]	+	IEC 60243	kV/mm	22	25
	++			14	16
Specific contact resistance	+	IEC 60093	Ohm x cm	$\rangle 10^{14}$	$\rangle 10^{14}$
	++			$\rangle 10^{12}$	$\rangle 10^{12}$
Surface resistance	+	IEC 60093	Ohm	$\rangle 10^{13}$	$\rangle 10^{13}$
	++			$\rangle 10^{12}$	$\rangle 10^{12}$
Relative permittivity: – At 100Hz	+	IEC 60250	-	3.5	3.9
	++		-	6.5	7.4
– At 1MHz	+	IEC 60250	-	3.1	3.3
	++		-	3.6	3.8
Dielectric loss factor tan δ: – At 100Hz	+	IEC 60250	-	0.015	0.019
	++		-	0.15	0.13
– At 1MHz	+	IEC 60250	-	0.016	0.021
	++		-	0.05	0.06
Physiological properties[6]					
Approved for use in the food industry (EU and FDA)		-	-	-	+

Murylon® A	Murylon® A GF	Murylon® 6 Cast	Murdopol®	Murytal® C	Murytal® H	Murytal® ESD
Beige	Black	Beige	Beige	White/black	White	Black
36	37	37	38	39	39	39
PA 66	PA 66-GF	PA 6-C	PA 12-C	POM-C	POM-H	POM-C
1.14	1.29	1.15	1.03	1.41	1.43	1.45
0.6/1.13	0.39/0.74	0.65/1.22	-	0.24/0.45	0.21/0.43	0.2/0.4
2.4	1.7	2.2	0.9	0.2	0.2	0.3
8	5.5	6.5	1.4	0.85	0.85	0.85
90/-	-/100	85/-	60/-	68/-	78/-	50/-
55/-	-/75	55/-	50	-	-	-
› 40	5	25	55	35	35	15
› 100	12	› 50	120	-	-	-
3450	5900	3500	2200	3100	3600	2300
1650	3200	1700	1800	-	-	-
25/49/92	28/55/90	26/51/92	-	19/35/67	22/40/75	-
20	26	22	-	13	15	-
8	18	10	-	-	-	-
NB	≥ 50	NB	NB	≥ 150	≥ 200	-
4.5	6	3.5	4-20	7	10	5
160	165	165	106	140	160	100
81	82-83	77	78	81	83	-
0.30	0.35	0.30	0.35	0.3	0.34	0.3
0.10	0.28	0.12	0.8	8.9	-	-
255	255	220	181	165	175	165
60	60	50	-	-50	-50	-50
0.28	0.30	0.29	0.23	0.31	0.31	0.31
8×10^{-5}	5×10^{-5}	8×10^{-5}	$10\text{-}15 \times 10^{-5}$	11.0×10^{-5}	9.5×10^{-5}	11×10^{-5}
9.5×10^{-5}	6×10^{-5}	9×10^{-5}	$10\text{-}18 \times 10^{-5}$	12.5×10^{-5}	11×10^{-5}	12.5×10^{-5}
180	240	170	150	140	150	140
95	120	105	120	115	105	105
-30	-20	-30	-60	-50	-50	-20
HB/V-2	HB/HB	HB/HB	HB	HB/HB	HB/HB	HB/HB
27	30	25	50	20	20	-
18	20	17	20	-	-	-
$› 10^{14}$	$› 10^{14}$	$› 10^{14}$	$› 10^{15}$	$› 10^{14}$	$› 10^{14}$	$≤ 10^{4}$
$› 10^{12}$	$› 10^{12}$	$› 10^{13}$	$› 10^{12}$	-	-	-
$› 10^{13}$	$› 10^{13}$	$› 10^{13}$	$› 10^{13}$	$› 10^{13}$	$› 10^{13}$	$≤ 10^{4}$
$› 10^{12}$	$› 10^{12}$	$› 10^{12}$	$› 10^{12}$	-	-	-
3.8	3.9	3.6	3.5 (At 50Hz)	3.8	3.8	-
7.4	6.9	6.6	-	-	-	-
3.3	3.6	3.2	-	3.8	3.8	-
3.8	3.9	3.7	-	-	-	-
0.013	0.012	0.012	0.038 (At 50Hz)	0.003	0.003	-
0.13	0.19	0.14	-	-	-	-
0.02	0.014	0.016	-	0.008	0.008	-
0.06	0.04	0.05	-	-	-	-
+	-	On request	-	+/-	+	-

HIGH-PERFORMANCE MATERIALS

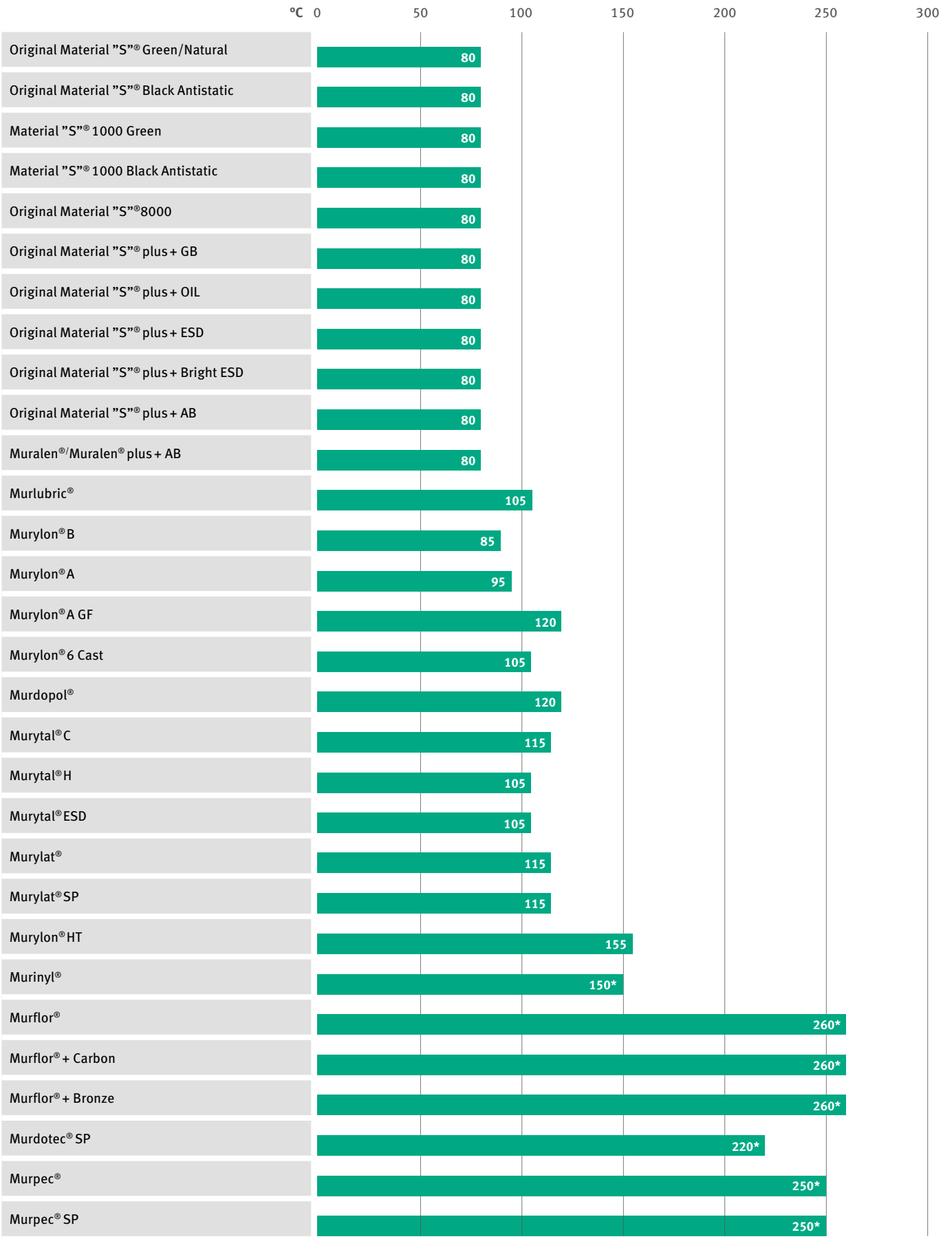
Characteristics

		Norm	Unit	Murylat®	Murylat® SP
Material colour		-	-	White/black	Light grey
Catalogue page		-	-	40	40
Code		ISO 1043-1	-	PETP	PETP-SP
Density		ISO 1183	kg/dm³	1.39	1.44
Water absorption		ISO 62			
– after 24 / 96h storage in water at 23°C			%	0.07/0.16	0.06/0.13
– saturation in standard atmosphere of 23°C / 50% RH			%	0.25	0.23
– saturation in water			%	0.5	0.47
Mechanical properties[4]					
Yield/break stress	+	ISO 527	MPa	90/-	-/76
	++			90/-	-/76
Breaking elongation	+	ISO 527	%	15	7
	++			15	7
Coefficient of elasticity	+	ISO 527	MPa	3700	3450
(pulling test)	++			3700	3450
Pressure test – compression strength at 1/2/5% nominal compression	+	ISO 604	MPa	26/51/103	24/47/95
Time-dependent creep tensile test, stress leading to an	+	ISO 899	MPa	26	23
elongation of 1% after 1000h at 23°C	++			26	23
Impact strength (Charpy)	+	ISO 179	kJ/m²	≥ 50	≥ 30
Notch impact toughness (Charpy)	+	ISO 179	kJ/m²	2	2.5
Indentation hardness	+	ISO 2039-1	MPa	170	160
Shore hardness D	+	DIN 53505	°	81	81
Coefficient of sliding friction (dry)	+	-	-	0.30	0.18
Sand Slurry test	+	-	µm/km	-	0.05
Thermal properties					
Melting temperature		ISO 3146	°C	255	255
Glass transition temperature		-	°C	70	70
Heat conductivity at 23°C		ISO 52612	W/(k x m)	0.29	0.29
Linear thermal coefficient of expansion α:		ISO 11359			
– Average value between 23 and 60°C			m/(m x K)	6×10^{-5}	6.5×10^{-5}
– Average value between 23 and 100°C			m/(m x K)	8×10^{-5}	8.5×10^{-5}
– Average value above 150°C			m/(m x K)	-	-
Upper service temperature in air:					
– Short-term service temperature[1]		-	°C	160	160
– Constant: for 5000/20000h[2]		-	°C	115/100	115/100
Lower service temperature[3]		-	°C	-20	-20
Burning behaviour as per UL94 – sample thickness 1.5/3mm		-	-	-	-
– sample thickness 3/6mm		-	-	HB/HB	HB/HB
Electrical properties[4]					
Electric strength[5]	+	IEC 60243	kV/mm	22	21
	++			22	21
Specific contact resistance	+	IEC 60093	Ohm x cm	$> 10^{15}$	$> 10^{15}$
	++			$> 10^{15}$	$> 10^{15}$
Surface resistance	+	IEC 60093	Ohm	$> 10^{14}$	$> 10^{14}$
	++			$> 10^{14}$	$> 10^{14}$
Relative permittivity: – At 100Hz	+	IEC 60250	-	3.4	3.4
	++		-	3.4	3.4
– At 1MHz	+	IEC 60250	-	3.2	3.2
	++		-	3.2	3.2
Dielectric loss factor tan δ: – At 100Hz	+	IEC 60250	-	0.001	0.001
	++		-	0.001	0.001
– At 1MHz	+	IEC 60250	-	0.014	0.014
	++		-	0.014	0.014
Physiological properties[6]					
Approved for use in the food industry (EU and FDA)		-	-	+/-	+

Murylon® HT	Murinyl®	Murflor®	Murflor® + Carbon (25Š)	Murflor® + Bronze (60%)	Murdotec® SP	Murpec®	Murpec® SP
Auburn	White	White	Black	Bronze	Dark blue	Beige	Black
41	42	43	44	44	45	46	47
PA 4.6	PVDF	PTFE	PTFE-C	PTFE CuSn	PPS-SP	PEEK	PEEK-SP
1.18	1.79	2.18	2.10	3.88	1.43	1.31	1.45
1.3/2.6	0.01/0.03	-	-	-	0.01/0.03	0.06/0.12	0.05/0.11
2.8	0.05	-	-	-	0.03	0.2	0.14
9.5	0.05	-	-	-	0.09	0.45	0.3
100/-	50/-	20/-	15/-	14/-	-/75	110/-	-/75
55/-	-	-	-	-	-	-	-
25	› 20	300	180	140	5	20	5
› 100	-	-	-	-	-	-	-
3300	2300	750	-	-	3700	4250	5900
1300	-	-	1270	1380	-	-	-
23/45/94	17/32/-	4.5/-/-	10/-/-	10.5/-/-	28/55/-	29/57/-	34/67/-
22	10	-	-	-	36	32	55
7.5	-	-	-	-	-	-	-
NB	NB	NB	-	-	25	NB	25
8	10	16	8	11	3.5	3.5	2.5
165	110	22	37	37	180	230	215
80	78	58	67	68	81	87	87
0.34	0.35	0.08	0.12	0.14	0.20	0.20	0.15
-	21	21	1.0	0.5	0.1	0.30	0.05
295	175	321	330	330	280	340	340
80	-	127	127	127	100	143	143
0.30	0.19	0.23	0.64	0.74	0.30	0.25	0.24
8×10^{-5}	13.0×10^{-5}	-	-	-	5×10^{-5}	5×10^{-5}	3.5×10^{-5}
9×10^{-5}	14.5×10^{-5}	16×10^{-5}	9.5×10^{-5}	9.5×10^{-5}	6×10^{-5}	5.5×10^{-5}	4×10^{-5}
-	-	-	-	-	10×10^{-5}	13×10^{-5}	8.5×10^{-5}
200	160	300	300	300	260	310	310
155/135	-/150	-/260	-/260	-/260	-/220	-/250	-/250
-40	-50	-200	-200	-200	-20	-60	-30
-	V-0/V-0	V-0/V-0	V-0/V-0	V-0/V-0	V-0/V-0	V-0/V-0	V-0/V-0
HB/HB	-	-	-	-	-	-	-
25	18	20	-	-	24	24	-
15	-	-	-	-	-	-	-
$› 10^{14}$	10^{14}	10^{17}	10^{3}-10^{6}	-	$›10^{14}$	$›10^{14}$	-
$› 10^{12}$	-	-	-	-	-	-	-
$› 10^{13}$	10^{13}	10^{15}	10^{3}-10^{6}	-	$›10^{13}$	$›10^{13}$	-
$› 10^{12}$	-	-	-	-	-	-	-
3.8	7.4	2.0	-	-	3.3	3.2	-
7.4	-	-	-	-	-	-	-
3.4	6	2.1	-	-	3.3	3.2	-
3.8	-	-	-	-	-	-	-
0.009	0.025	‹ 0.0003	-	-	0.003	0.001	-
0.13	-	-	-	-	-	-	-
0.019	0.165	‹ 0.0001	-	-	0.003	0.002	-
0.06	-	-	-	-	-	-	-
-	+	+	-	-	+	+	-

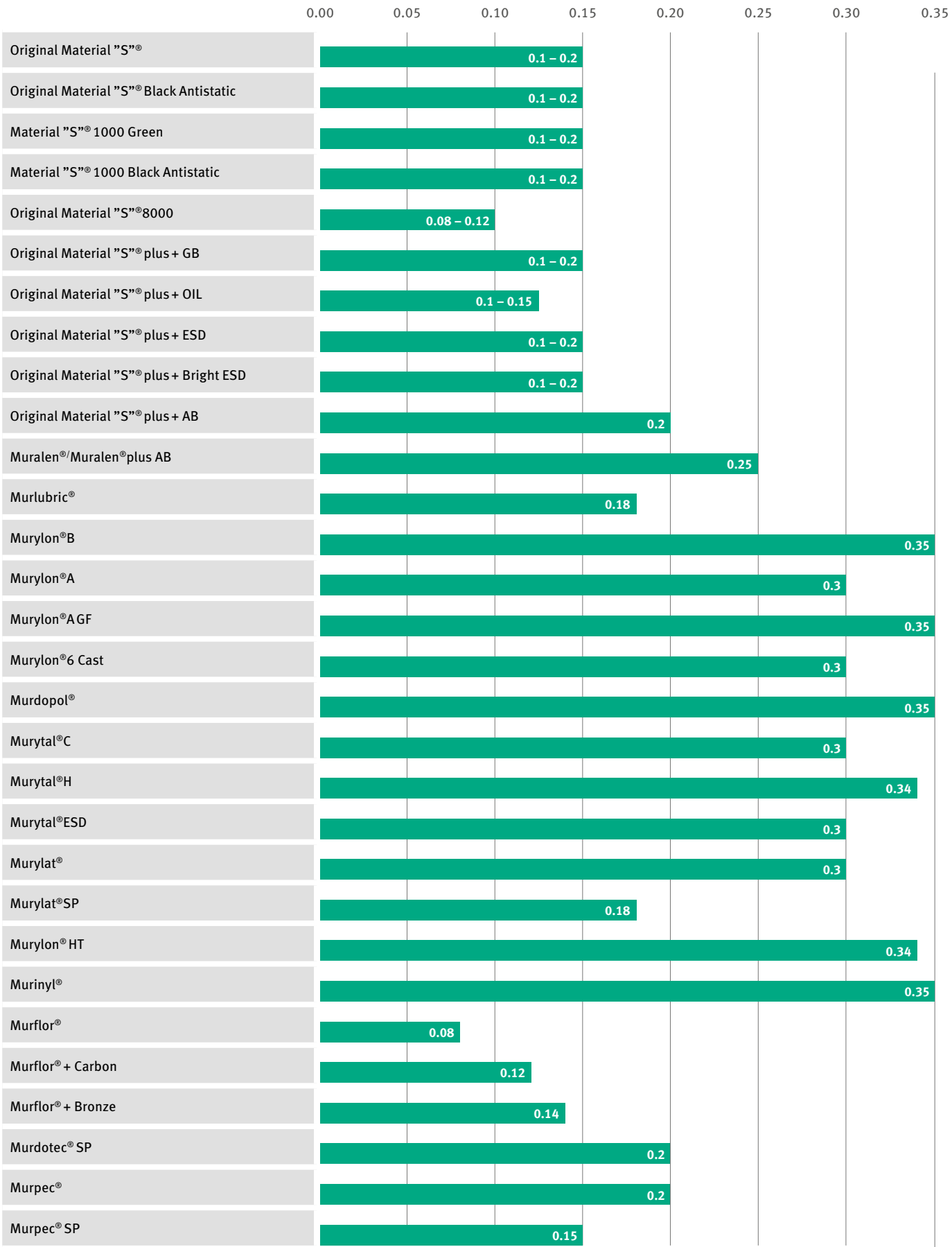
CONSTANT SERVICE TEMPERATURES IN °C (for 5000h) *(for 20000h)

Comparison of Materials



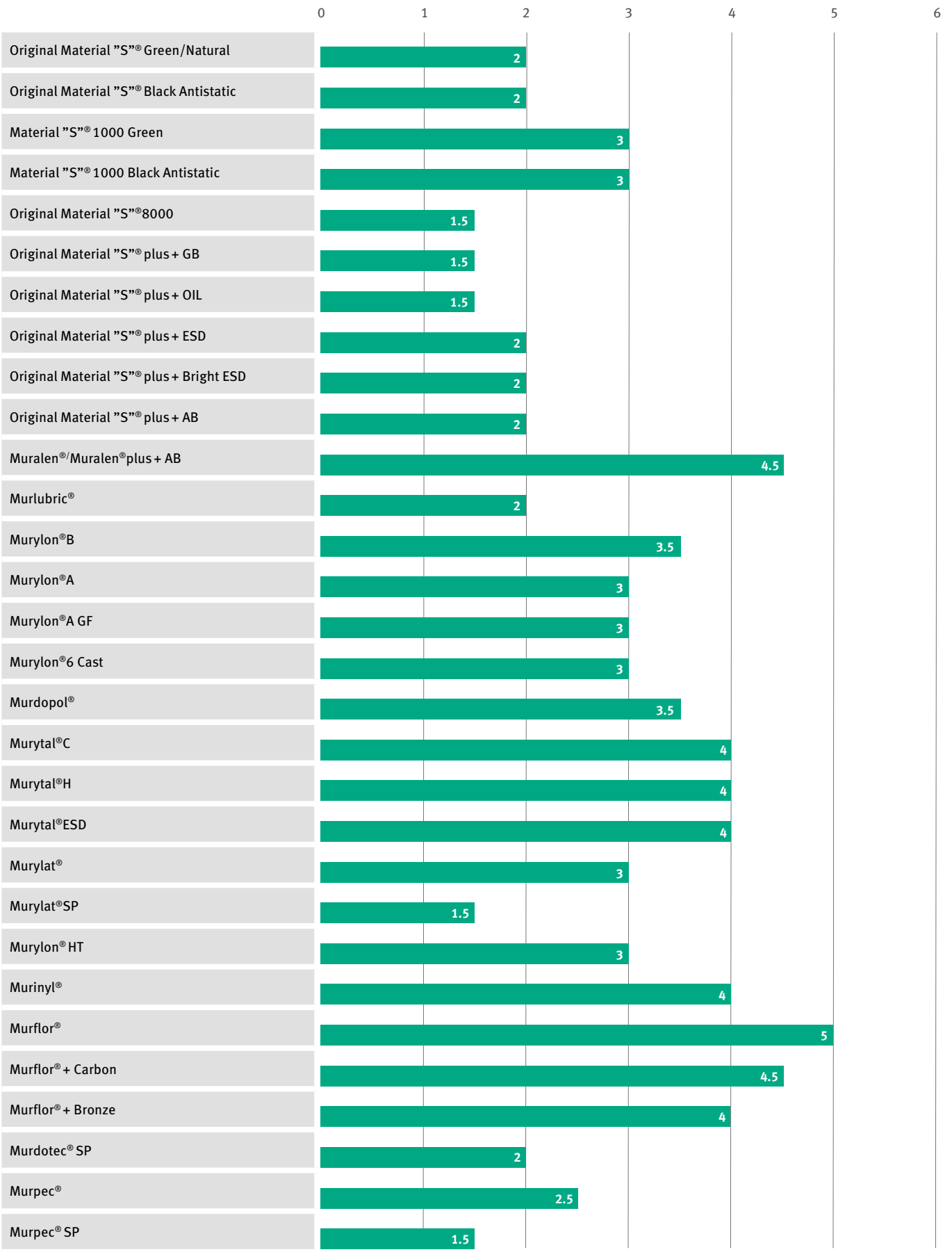
SLIDING FRICTION COEFFICIENT

Comparison of Materials



WEAR RESISTANCE

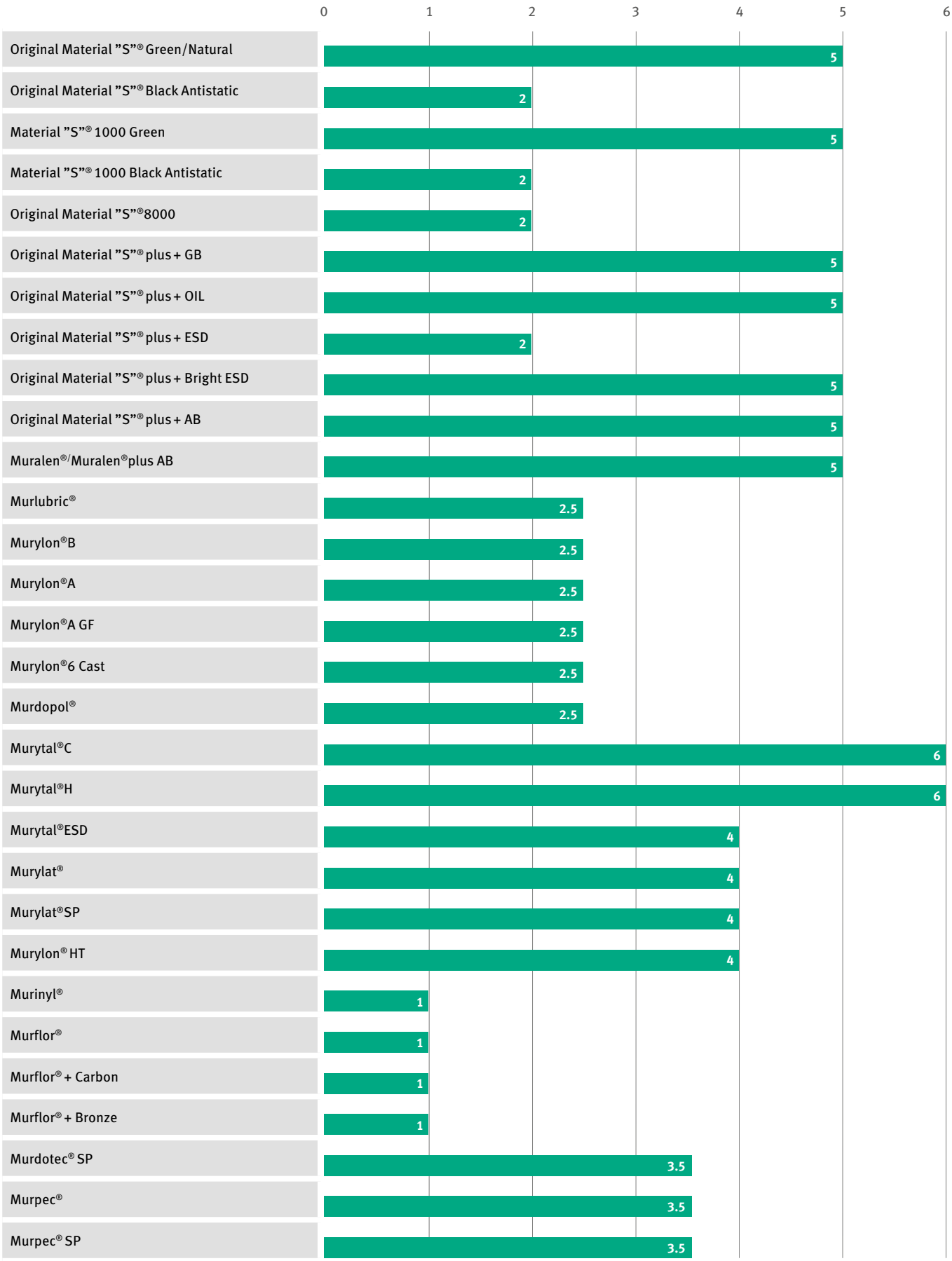
Comparison of Materials



1 = excellent, 6 = less good

UV RESISTANCE

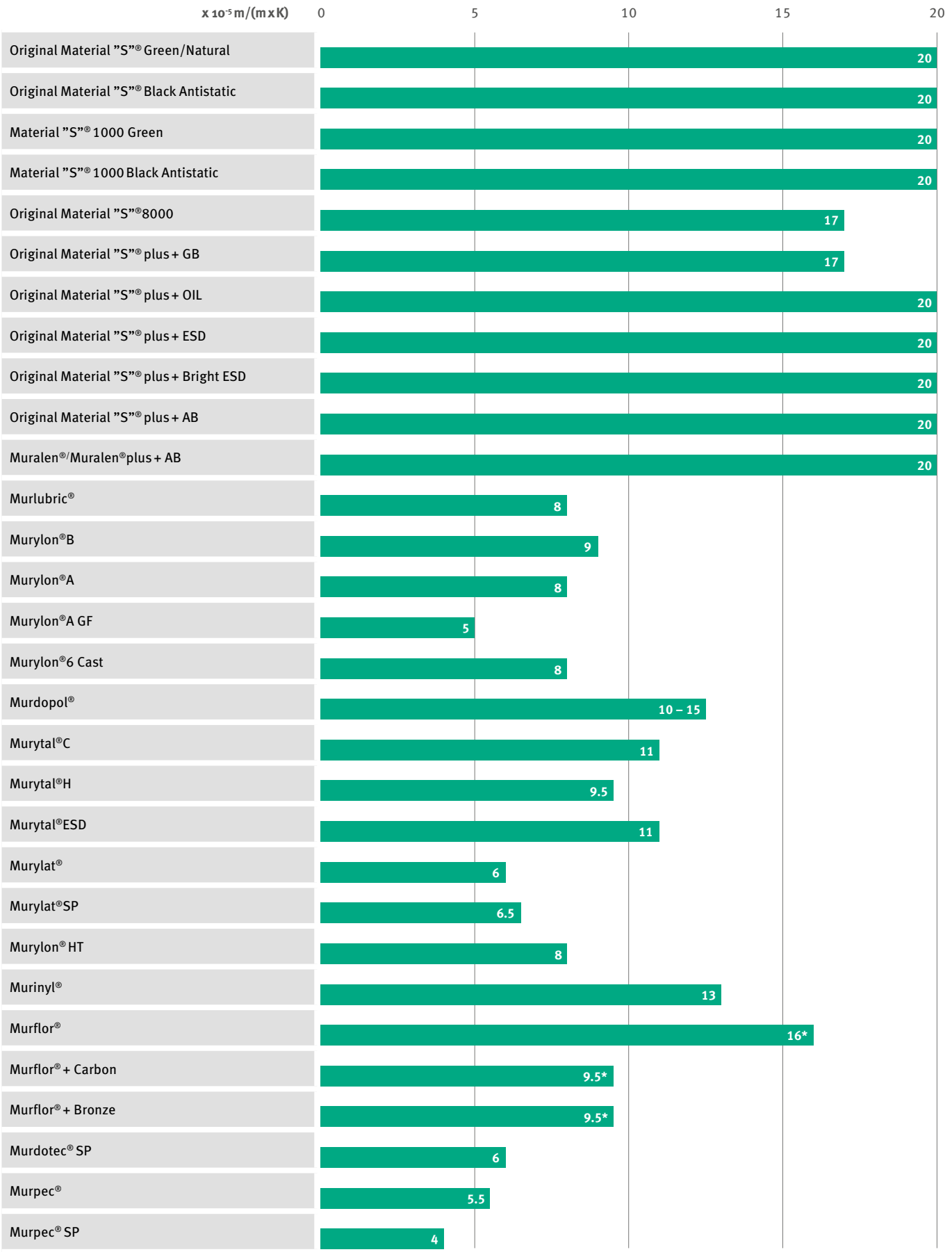
Comparison of Materials



1 = excellent, 6 = less good

α_K COEFFICIENT OF EXPANSION (between 23 and 60˚C) *(between 23 and 100˚C)

Comparison of Materials



E COEFFICIENT OF ELASTICITY

Comparison of Materials