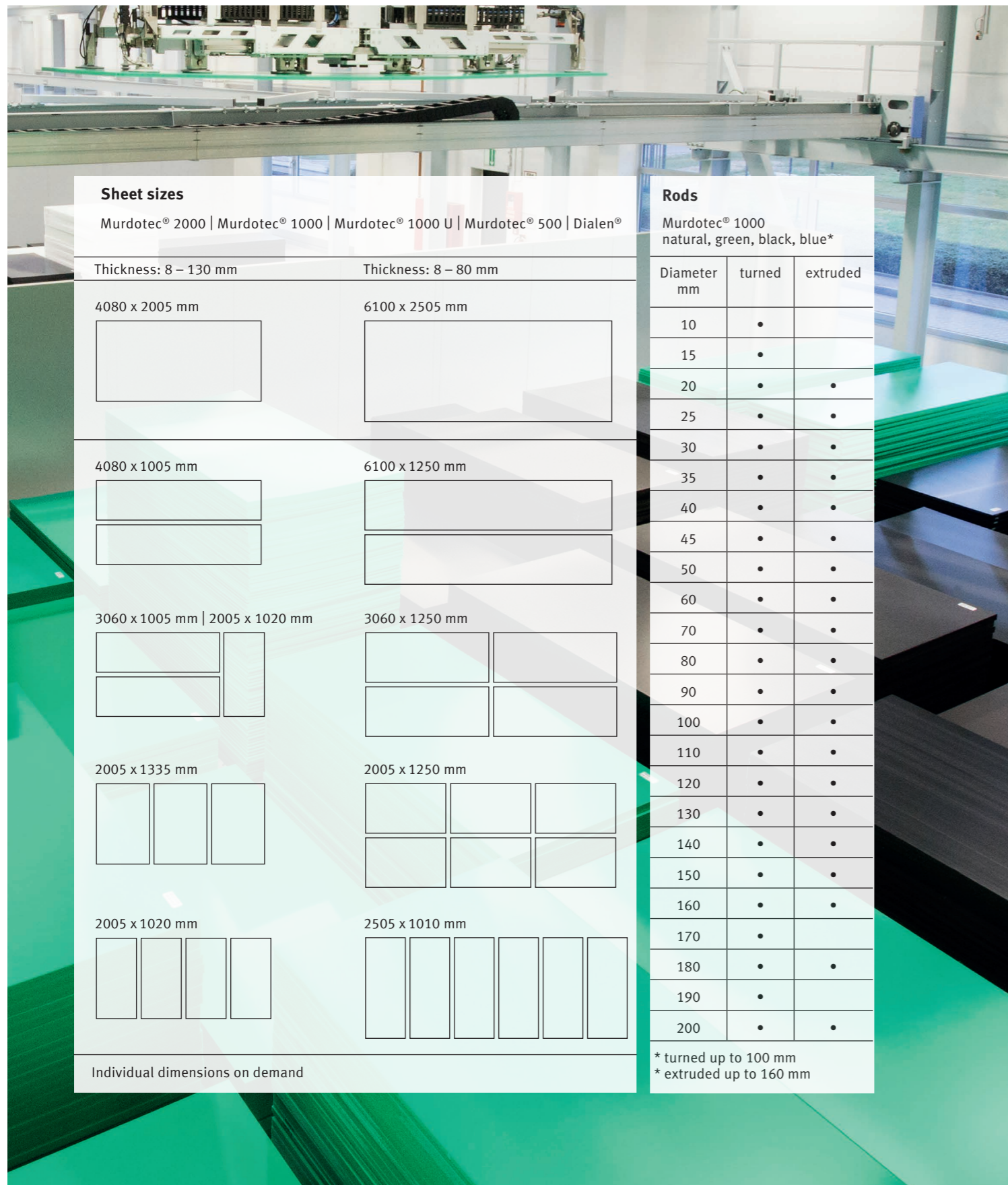
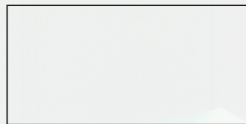

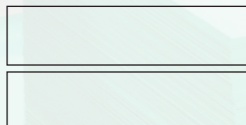
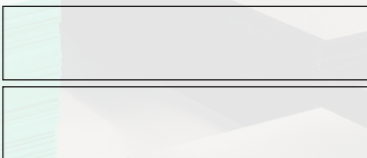
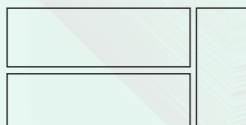




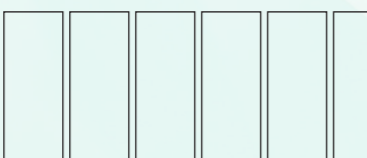


OUR RANGE OF PRODUCTS



Sheet sizes
Murdotec® 2000 | Murdotec® 1000 | Murdotec® 1000 U | Murdotec® 500 | Dialen®

Thickness: 8 – 130 mm	Thickness: 8 – 80 mm
4080 x 2005 mm 	6100 x 2505 mm 
4080 x 1005 mm 	6100 x 1250 mm 
3060 x 1005 mm 2005 x 1020 mm 	3060 x 1250 mm 
2005 x 1335 mm 	2005 x 1250 mm 
2005 x 1020 mm 	2505 x 1010 mm 

Individual dimensions on demand

Rods
Murdotec® 1000
natural, green, black, blue*

Diameter mm	turned	extruded
10	•	
15	•	
20	•	•
25	•	•
30	•	•
35	•	•
40	•	•
45	•	•
50	•	•
60	•	•
70	•	•
80	•	•
90	•	•
100	•	•
110	•	•
120	•	•
130	•	•
140	•	•
150	•	•
160	•	•
170	•	
180	•	•
190	•	
200	•	•

* turned up to 100 mm
* extruded up to 160 mm

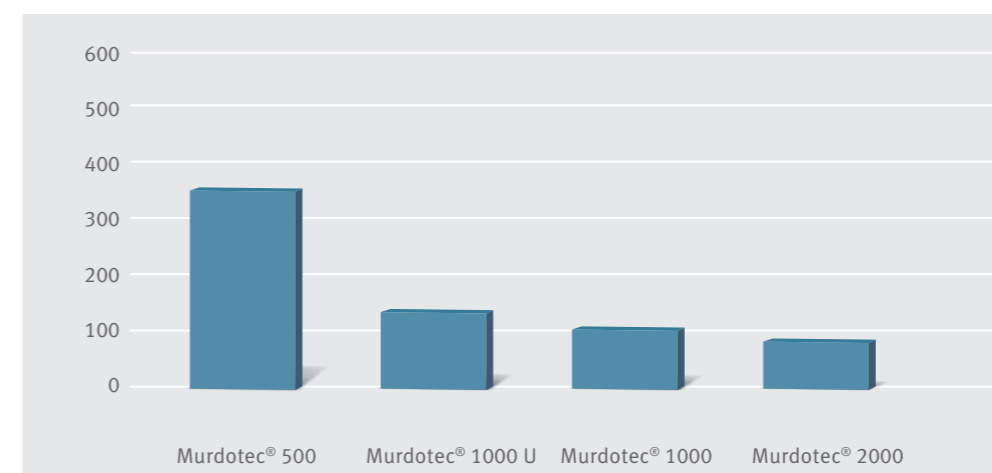
PROPERTIES OF OUR STANDARD PLASTICS

Our extensive product range enables us to precisely fulfil special customer wishes every time. Depending on the application or customer's wish, our Murdotec® 500, Murdotec® 1000 and Murdotec® 2000 plastics differ in terms of their optimised mechanical, electrical or chemical properties and RAL colours.

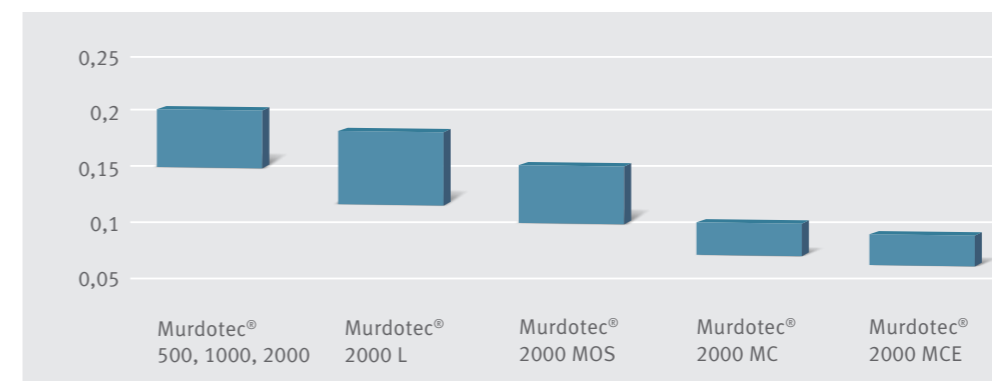
Molecular weight [g/mol]



Wear [%]



Sliding friction coefficient



WEAR AND ABRASION RESISTANT

Murdotec® 1000

Ultra-high-molecular-weight polyethylene (UHMW-PE) as per ISO 15527 sheet group 1.2

The standard UHMW-PE with a molecular weight of 5 million g/mol is characterised by its very good wear and abrasion resistance. It has excellent impact and shock resistance, very good chemical resistance, good anti-adhesion properties, a low density and a low friction coefficient.

It has very good electrical insulation and dielectric properties (with the exception of static dissipative and conductive types), good resistance to radiated energy (gamma and X-ray radiation) and outstanding machinability. It is approved according to FDA and EU Directive 10/2011.

Murdotec® 1000 and Murdotec® 2000 are available in the following RAL colours:



Murdotec® 2000

Ultra-high-molecular-weight polyethylene (UHMW-PE) as per ISO 15527 sheet group 1.1

Murdotec® 2000 is the premium UHMW-PE with a molecular weight of around 9 million g/mol. It has the same basic properties as Murdotec® 1000, but better abrasion resistance.

Application areas for Murdotec® 1000 and Murdotec® 2000

- Transport and conveyor technology
- Food sector, machine construction
- Chemical industry

MURDOTEC® 1000 AND MURDOTEC® 2000

Material	Murdotec® 1000 natural	Murdotec® 1000 coloured	Murdotec® 1000 AST	Murdotec® 2000 natural	Murdotec® 2000 coloured	Murdotec® 2000 AST	DIN	ISO/EC
Material colour	natural	coloured	black	natural	coloured	black		
Molecular weight <i>g/mol</i>	5 x 10 ⁶	5 x 10 ⁶	5 x 10 ⁶	9 x 10 ⁶	9 x 10 ⁶	9 x 10 ⁶		
Sheet group	1.2	1.2	1.2	1.1	1.1	1.1		15527: 2013
Density <i>kg/dm³</i>	≤0,94	≤0,94	≤0,94	≤0,94	≤0,94	≤0,94	53479	1183
Water absorption – saturation at 23°C %	<0,01	<0,01	<0,01	<0,01	<0,01	<0,01	53715	
Mechanical properties								
Yield/break stress <i>MPa</i>	~20	~20	~20	~20	~20	~20	53455	527-2
Breaking elongation %	>300	>300	>300	>250	>250	>250	53455	527-2
Coefficient of elasticity (pulling test) <i>MPa</i>	>700	>700	>700	>600	>600	>600	53457	527-2
Notched impact strength – charpy <i>kJ/m²</i>	≥170	≥170	≥170	≥170	≥170	≥170	53453	179
Shore hardness D °	61–65	61–65	61–65	61–64	61–64	61–65	868	7619-1
Ball indentation hardness <i>N/mm²</i>	>30	>30	>30	>30	>30	>30	53456	2039
Wear resistance (sand slurry test) %	100	100	110	80	80	80		15527
Coefficient of friction to steel (0,25m/s, 0,25N/mm ²)	~0,2	~0,2	~0,2	~0,2	~0,2	~0,2		
Coefficient of friction to POM (0,25m/s, 0,25N/mm ²)								
Thermal properties								
Heat conductivity 23°C <i>W/(K x m)</i>	0,4	0,4	0,4	0,4	0,4	0,4	52612	
Linear thermal coefficient of expansion α (average value between 23 und 60 °C) <i>m/(m x K)</i>	20 x 10 ⁻⁵	20 x 10 ⁻⁵	20 x 10 ⁻⁵	20 x 10 ⁻⁵	20 x 10 ⁻⁵	20 x 10 ⁻⁵	53752	11359-2
Upper service temperature in air:								
Short-term service temperature °C	90	90	90	90	90	90		
Constant for 5000 h °C	80	80	80	80	80	80	53446	
Lower service temperature °C	-200	-200	-200	-200	-200	-200		
Burning behaviour	HB	HB	HB	HB	HB	HB		
Melting temperature °C	130–135	130–135	130–135	130–135	130–135	130–135		3146 method C
Electrical properties								
Dielectric strength <i>kV/mm</i>	≤45	≤45		≤45	≤45		53481	60243
Specific volume resistivity <i>Ohm x cm</i>	>10 ¹²	>10 ¹²	≤10 ⁶	>10 ¹²	>10 ¹²	≤10 ⁶	53482	60093
Surface resistivity <i>Ohm</i>	>10 ¹²	>10 ¹²	≤10 ⁹	>10 ¹²	>10 ¹²	≤10 ⁹	53482	60093
Physiological properties								
Approved for use in food industry (FDA)	yes	yes	yes	yes	yes	yes		
Approved for use in food industry (EU)	yes	yes	yes	yes	yes	yes		

OUR SPECIAL TYPES

MURDOTEC® SPECIALTIES

Ultra-high-molecular-weight polyethylene (UHMW-PE) as per ISO 15527 sheet group 1.1 / 1.2

Murdotec® special types are the respective specialists in their area. They are used wherever specific properties are called for.

Application areas

- Transport and conveyor technology
- Food sector
- Machine construction
- Chemical industry
- Filling plants
- Bulk goods handling
- Medical engineering

Material	Murdotec® 1000 E	Murdotec® 1000 AB	Murdotec® 1000 light AST	Murdotec® 2000 HS	Murdotec® 2000 L	Murdotec® 2000 MC	Murdotec® 2000 MCE	Murdotec® 2000 MCWE	Murdotec® 2000 G	Murdotec® 2000 MOS	Murdotec® 2000 MD	Murdotec® 2000 E	Murdotec® 2000 MR	DIN	ISO/EC
Material colour	black	sky-blue	light grey	ruby red	aqua	cobalt blue	black	black	light green	anthracite	pastel blue	black	opal green		
Molecular weight <i>g/mol</i>	5 x 10 ⁶	5 x 10 ⁶	5 x 10 ⁶	9 x 10 ⁶	9 x 10 ⁶	9 x 10 ⁶	9 x 10 ⁶	9 x 10 ⁶	9 x 10 ⁶	9 x 10 ⁶	9 x 10 ⁶	9 x 10 ⁶	9 x 10 ⁶		
Sheet group	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1		15527: 2013
Density <i>kg/dm³</i>	≤0,94	≤0,94	≤0,94	≤0,94	≤0,94	≤0,94	≤0,94	≤0,94	≤0,94	≤0,95	~1,14	≤0,94	≤0,94	53479	1183
Water absorption – saturation at 23°C %	<0,01	<0,01	<0,01	<0,01	<0,01	<0,01	<0,01	<0,01	<0,01	<0,01	<0,01	<0,01	<0,01	53715	
Mechanical properties															
Yield/break stress <i>MPa</i>	~20	~20	~20	~20	~20	~20	~20	~20	~20	~20	~20	~20	~20	53455	527-2
Breaking elongation %	>300	>300	>300	>200	>150	>250	>220	>300	>250	>200	>200	>250	>250	53455	527-2
Coefficient of elasticity (pulling test) <i>MPa</i>	>700	>700	>200	>600	>600	>700	>700	>700	>600	>600	>600	>600	>600	53457	527-2
Notched impact strength – charpy <i>kJ/m²</i>	≥170	≥170	≥170	≥140	≥170	≥120	≥120	≥170	≥100	≥170	≥100	≥170	≥170	53453	179
Shore hardness D °	61–65	61–65	61–65	61–64	60–64	60–63	60–63	60–63	62–65	61–64	62–64	61–65	61–64	868	7619-1
Ball indentation hardness <i>N/mm²</i>	>30	>30	>30	>30	>30	>25	>25	>30	>35	>35	>35	>30	>30	53456	2039
Wear resistance (sand slurry test) %	110	100	120	80	80	80	80	120	80	80	100	80	80		15527
Coefficient of friction to steel (0,25m/s, 0,25N/mm ²)	~0,2	~0,2	~0,2	~0,2	~0,2	~0,1	~0,1	~0,2	~0,2	~0,2	~0,2	~0,2	~0,2		
Coefficient of friction to POM (0,25m/s, 0,25N/mm ²)						~0,18	~0,18	~0,12							
Thermal properties															
Heat conductivity 23°C <i>W/(K x m)</i>	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	52612	
Linear thermal coefficient of expansion α (average value between 23 und 60 °C) <i>m/(m x K)</i>	20 x 10 ⁻⁵	20 x 10 ⁻⁵	20 x 10 ⁻⁵	20 x 10 ⁻⁵	20 x 10 ⁻⁵	20 x 10 ⁻⁵	20 x 10 ⁻⁵	20 x 10 ⁻⁵	17 x 10 ⁻⁵	17 x 10 ⁻⁵	20 x 10 ⁻⁵	20 x 10 ⁻⁵	20 x 10 ⁻⁵	53752	11359-2
Upper service temperature in air:															
Short-term service temperature °C	90	90	90	120	90	90	90	90	90	90	120	90	90		
Constant for 5000 h °C	80	80	80	100	80	80	80	80	80	80	100	80	80	53446	
Lower service temperature °C	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200	-200		
Burning behaviour	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB		
Melting temperature °C	130–135	130–135	130–135	130–135	130–135	130–135	130–135	130–135	130–135	130–135	130–135	130–135	130–135		3146 method C
Electrical properties															
Dielectric strength <i>kV/mm</i>		≤45		≤45	≤45	≤45			≤45	≤45	≥45		≥45	53481	60243
Specific volume resistivity <i>Ohm x cm</i>	≤10 ⁶	>10 ¹²	≤10 ⁶	>10 ¹²	>10 ¹²	>10 ¹²	≤10 ⁶	≤10 ⁶	>10 ¹²	>10 ¹²	>10 ¹²	≤10 ⁶	>10 ¹²	53482	60093
Surface resistivity <i>Ohm</i>	≤10 ⁶	>10 ¹²	≤10 ⁶	>10 ¹²	>10 ¹²	>10 ¹²	≤10 ⁶	≤10 ⁶	>10 ¹²	>10 ¹²	>10 ¹²	≤10 ⁶	>10 ¹²	53482	60093
Physiological properties															
Approved for use in food industry (FDA)	yes	yes	no	yes	yes	yes	yes	yes	yes	no	yes	yes	yes		
Approved for use in food industry (EU)	yes	yes	no	yes	yes	yes	yes	no	yes	no	yes	yes	yes		

// 5

Murdotec specialties are available in the following RAL colours:



The following special types are not approved for use in the food industry:

- Murdotec® 1000 light AST** light antistatic
- Murdotec® 2000 MOS** molybdenum sulphide
- Murdotec® 2000 MCWE** slide-optimised for POM, silicone-free, electrically conductive

The following special types are approved according to FDA and EU Directive10/2011:

- Murdotec® 1000/2000 E** electrically conductive
- Murdotec® 1000 AB** antibacterial
- Murdotec® 2000 HS** heat-stabilised
- Murdotec® 2000 L** oil-filled
- Murdotec® 2000 MC** slide-optimised
- Murdotec® 2000 MCE** electrically conductive, slide-optimised
- Murdotec® 2000 G** filled with glass balls
- Murdotec® 2000 MD** metal-detectable
- Murdotec® 2000 MR** wear-optimised

HIGH QUALITY WITH OUR REGROUND TYPES

High quality raw material sources – even for our regenerated plastics

Due to its molecular construction, polyethylene is extremely suitable for the recycling of chippings and off-cuts. The sorting accuracy and high level of grinding have a significant effect on quality. For this reason, we sort plastics that are suitable for recycling and store them separately. Only plastics types of the same quality may be mixed together. This prevents mixed types being produced that keep appearing on the market but cannot be identified as such by the customer.

Murdotec® regenerated plastics are available in the following colours:



And we go even further

A certain amount of new material is added to each batch on our mixing lines. With Murdotec® 1000 U, you can be sure that you will receive a plastic made from UHMW-PE base material of the highest quality.

Application areas

- Transport and conveyor technology
- Machine construction
- Chemical industry
- Crane underlays

MURDOTEC® REGENERATED PLASTICS

Material	Murdotec® 1000 U green	Murdotec® 1000 U AST	Murdotec® 1000 U black-confetti	DIN	ISO/EC
Material colour	green	black	black-confetti		
Molecular weight <i>g/mol</i>					
Sheet group					15527:2013
Density <i>kg/dm³</i>	≤0,96	≤0,96	≤0,96	53479	1183
Water absorption – saturation at 23°C %	<0,01	<0,01	<0,01	53715	
Mechanical properties					
Yield/break stress <i>MPa</i>	~20	~20		53455	527-2
Breaking elongation %	>280	>200		53455	527-2
Coefficient of elasticity (pulling test) <i>MPa</i>	>700	>700		53457	527-2
Notched impact strength – charpy <i>kJ/m²</i>	≥80	≥80	≥50	53453	179
Shore hardness D °	61–65	61–65	61–66	868	7619-1
Ball indentation hardness <i>N/mm²</i>	>30	>30	>30	53456	2039
Wear resistance (sand slurry test) %	120	120	160		15527
Coefficient of friction to steel (0,25m/s, 0,25N/mm²)	~0,2	~0,2	~0,2		
Coefficient of friction to POM (0,25m/s, 0,25N/mm²)					
Thermal properties					
Heat conductivity 23°C <i>W/(K x m)</i>	0,4	0,4	0,4	52612	
Linear thermal coefficient of expansion α (average value between 23 und 60 °C) <i>m/(m x K)</i>	20 x 10 ⁻⁵	20 x 10 ⁻⁵	20 x 10 ⁻⁵	53752	11359-2
Upper service temperature in air:					
Short-term service temperature °C	90	90	90		
Constant for 5000 h °C	80	80	80	53446	
Lower service temperature °C	-150	-150	-150		
Burning behaviour	HB	HB	HB		
Melting temperature °C	130–135	130–135	130–135		3146 method C
Electrical properties					
Dielectric strength <i>kV/mm</i>	≤45		k.a.	53481	60243
Specific volume resistivity <i>Ohm x cm</i>	>10 ¹²	≤10 ⁶	k.a.	53482	60093
Surface resistivity <i>Ohm</i>	>10 ¹²	≤10 ⁹	k.a.	53482	60093
Physiological properties					
Approved for use in food industry (FDA)	no	no	no		
Approved for use in food industry (EU)	no	no	no		

RESISTANT WHEN USED IN THE FOOD SECTOR

Murdotec® 500 High-molecular-weight polyethylene (HMW-PE) as per ISO 15527 sheet group 2.1

Owing to its good resistance, Murdotec® 500 is suitable for use in the food sector. It has good anti-adhesion properties and good impact and shock resistance. In addition, it has good slide properties and Murdotec® 500 is characterised by very good electrical insulation and dielectric properties (with the exception of static dissipative and conductive types). It has very good cut resistance. It is approved according to FDA and EU Directive 10/2011.



Application areas

- Food sector
- Chemical industry
- Machine construction

MURDOTEC® 500

Material	Murdotec® 500 natural	Murdotec® 500 coloured	Murdotec® 500 AST	Murdotec® 500 AB	DIN	ISO/ (IEC)
Material colour	natural	coloured	black	sky blue		
Molecular weight <i>g/mol</i>	0,5 x 10 ⁶	0,5 x 10 ⁶	0,5 x 10 ⁶	0,5 x 10 ⁶		
Sheet group	2.1	2.1	2.1	2.1		15527:2013
Density <i>kg/dm³</i>	≤0,96	≤0,96	≤0,96	≤0,96	53479	1183
Water absorption – saturation at 23°C %	<0,01	<0,01	<0,01	>0,01	53715	
Mechanical properties						
Yield/break stress <i>MPa</i>	~25	~25	~25	~25	53455	527-2
Breaking elongation %	>500	>500	>500	>500	53455	527-2
Coefficient of elasticity (pulling test) <i>MPa</i>	>800	>800	>700	>800	53457	527-2
Notched impact strength – charpy <i>kJ/m²</i>	≥25	≥25	≥25	≥25	53453	179
Shore hardness D °	62–65	62–65	62–66	62–65	868	7619-1
Ball indentation hardness <i>N/mm²</i>	>35	>35	>35	>35	53456	2039
Wear resistance (sand slurry test) %	350	350	350	350		15527
Coefficient of friction to steel (0,25m/s, 0,25N/mm ²)	~0,2	~0,2	~0,2	~0,2		
Coefficient of friction to POM (0,25m/s, 0,25N/mm ²)						
Thermal properties						
Heat conductivity 23°C <i>W/(K x m)</i>	0,4	0,4	0,4	0,4	52612	
Linear thermal coefficient of expansion α (average value between 23 und 60 °C) <i>m/(m x K)</i>	20 x 10 ⁻⁵	20 x 10 ⁻⁵	20 x 10 ⁻⁵	20 x 10 ⁻⁵	53752	11359-2
Upper service temperature in air:						
Short-term service temperature °C	90	90	90	90		
Constant for 5000 h °C	80	80	80	80	53446	
Lower service temperature °C	-100	-100	-100	-100		
Burning behaviour	HB	HB	HB	HB		
Melting temperature °C	130–135	130–135	130–135	130–135		3146 method C
Electrical properties						
Dielectric strength <i>kV/mm</i>	≤45	≤45		≤45	53481	60243
Specific volume resistivity <i>Ohm x cm</i>	>10 ¹²	>10 ¹²	≤10 ⁶	>10 ¹²	53482	60093
Surface resistivity <i>Ohm</i>	>10 ¹²	>10 ¹²	≤10 ⁹	>10 ¹²	53482	60093
Physiological properties						
Approved for use in food industry (FDA)	yes	yes	yes	yes		
Approved for use in food industry (EU)	yes	yes	yes	yes		