



OKULEN[®]



Semi-finished components
made of industrial plastics

Greetings – we are OKULEN.



OKULEN.

Employing 150 people in our fully equipped machine shop where we produce top quality products.



Comprehensive.

We develop and manufacture industrial plastics and deliver them to over 50 countries world wide in either a semi-finished sheet or a quality finished component manufactured to customer's specifications.



Fast.

We are not a large corporation but a solid medium sized business allowing us to be at your disposal at any time. We will continue to strive for quality products, short delivery times, extraordinary innovations, quality assurance and the reliability that our customers require and appreciate.



Inventive.

We are OKULEN.
How may we help you?



Excellent.



Reliable.



Factories 1 and 2 in Ahaus-Ottenstein. We also own a facility in Clearwater, Florida.

Quality? You can be absolutely sure of that.

Semi-finished parts from our production face a demanding future. Our customers process them into a wide variety of finished components – so we are also responsible for the satisfaction of our customers' clients.

That is why the assurance and documentation of consistent high quality is so important to us: This is not just restricted to the production department, with its highly developed machine park. It also includes material testing and quality control of resins and recycled materials.

In our own laboratory, in addition to visual inspection, density measurement and melt flow index analysis, tests by the notched-impact and sand slurry method are also part of the standard programme. So you can always be sure that semi-finished products from OKULEN are constantly of top quality.

And if you want to implement special applications, we can assist you with our engineering knowledge to realise your ideas.

Quality is the first priority – inspections and assurance are part of this.



OKULEN's own laboratory guarantees compliance with all standards and norms.

OKULEN® 500

OK 500 is a high molecular low pressure polyethylene with a molecular weight of approx. 500.000 g/mol.

With semi-finished products made of OK 500, we offer you a material which, thanks to its characteristics, quality and price, is the first choice for many applications. Particularly in the food industry and in sports centre construction, OK 500 does an excellent job with its impact strength and insulating properties – and that at competitive costs.

OK 500 complies in full with all applicable regulations for contact with food. In addition to its use as a cutting board, as lining or as impact protection, it is also useful in other applications, for example in machine construction.



OKULEN produces semi-finished items in almost any colour you could wish for.



Our quality standards guarantee the greatest precision, even in cutting.



With the planer we achieve sheet thicknesses exact to a tenth of a millimetre.

Material properties

		OKULEN® 500 (PE-HMW)				OKULEN® 500-REG		
		natural	coloured	UV-stabilised	AST	multicoloured coloured	multicoloured fine	multicoloured coarse
Mechanical characteristics								
Density ISO 1183-A	[g/cm ³]	0,95	0,95	0,95	0,96	0,95	0,96	0,96
Impact strength (Charpy) ISO 11542-2	[kJ/m ²]	25	10 - 20	10 - 20	10 - 20	10 - 20	10 - 15	10 - 15
Wear – Internal test method based on DIN 58836 (Slurry test ref. to GUR 4120 = 100 %)	[%]	400	400	400 - 450	400 - 450	400 - 450	400 - 500	400 - 500
Yield stress ISO/R 527 50 mm/min.	[N/mm ²]	26	20 - 26	20 - 26	15 - 20	15 - 20	10 - 20	10 - 20
Tear elongation ISO/R 527 50 mm/min.	[%]	> 50	> 50	> 50	> 50	> 50	> 50	> 50
Fatigue pressure characteristics at 20 °C	[N/mm ²]	10	10	10	10	10	10	10
Compression < 10 % in 7 days								
Dynamic coefficient of friction PE-metal Pm = 2 N/mm ² v = 10 m/min.	[μ]	0,2	0,2	0,2	0,2	0,2	0,2	0,2
Shore D, 3 s value 6 mm plate ISO 868		65	65	65	65	63	64 - 65	64 - 65
Water absorption	[%]	< 0,1	< 0,1	< 0,1	< 0,1	< 0,1	< 0,1	< 0,1
Thermal characteristics								
Melting temperature DSC ISO 3146	[°C]		130 - 135				130 - 135	
Continuous use temperature max.	[°C]		80				80	
Coefficient of thermal linear expansion DIN 53752	[23 - 80 °C]		- 2 x 10 ⁻⁴ /K				- 2 x 10 ⁻⁴ /K	
Electrical characteristics								
Current flow resistance IEC 60093 / VDE 0303 Teil 30 [Ω x cm]		>10 ¹⁴	<10 ¹⁴	≤10 ⁹	≤10 ⁹	<10 ¹⁴	<10 ¹²	<10 ¹⁴
Surface resistance IEC 60093 / VDE 0303 Teil 30	[Ω]	>10 ¹³	<10 ¹³	≤10 ⁹	≤10 ⁹	<10 ¹³	<10 ¹¹	<10 ¹³

The above specifications are based upon the state of our knowledge and do not represent an assurance of qualities. Black coloured plates may exhibit antistatic properties. The recipient of our product is solely responsible for compliance with all existing laws and regulations.

The quality control proves it: Recycled materials processed by OKULEN achieve a constant high quality.



OKULEN® 1000

OK 1000 is an ultra high molecular low pressure polyethylene with a molecular weight > 3.500.000 g/mol.

We like to describe OK 1000 as our "material for all applications". Thanks to its material properties it is extremely versatile: The great wear resistance, high impact strength and excellent sliding properties make it ideal, for example, for use in machine construction. OK 1000 is also first choice in applications like in plant construction and conveyor technology.

But also, of course, for harbour and fender construction, as a lining for highly exposed areas or as a material for the sports and skiing industry. OK 1000 is resistant to low temperatures and most chemicals – and is also highly resistant to abrasion.



We produce skived strip material in thicknesses of 0,5 - 12 mm.



Our self-designed machines allow us to press sheets up to a thickness of 400 mm.



Our goal is to satisfy every customer.

Material properties

OKULEN® 1000 (PE-UHMW)

OKULEN® 1000-REG

		OKULEN® 1000 (PE-UHMW)				OKULEN® 1000-REG		
		natural	coloured	black, UV-stabilised	AST	multicoloured coloured	multicoloured fine	multicoloured coarse
Mechanical characteristics								
Density ISO 1183-A	[g/cm³]	0,93	0,93	0,94	0,95	0,94	0,94	0,94
Impact strength (Charpy) ISO 11542-2	[kJ/m²]	210	180 - 210	140 - 170	100 - 130	130 - 150	100 - 130	100 - 130
Wear – Internal test method based on DIN 58836 (Slurry test rel. to GUR 4120 = 100 %)	[%]	100	100	100 - 110	110 - 120	120 - 140	120 - 140	120 - 140
Yield stress ISO/R 527 50 mm/min.	[N/mm²]	20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20	15 - 20
Tear elongation ISO/R 527 50 mm/min.	[%]	> 50	> 50	> 50	> 50	> 50	> 50	> 50
Fatigue pressure characteristics at 20 °C	[N/mm²]	10	10	10	10	10	10	10
Compression < 10 % in 7 days								
Dynamic coefficient of friction PE-metal Pm = 2 N/mm² v = 10 m/min.	[μ]	0,2	0,2	0,2	0,2	0,2	0,2	0,2
Shore D, 3 s value 6 mm plate ISO 868		63	63	63	63	63	62 - 64	62 - 64
Water absorption	[%]	< 0,1	< 0,1	< 0,1	< 0,1	< 0,1	< 0,1	< 0,1
Thermal characteristics								
Melting temperature DSC ISO 3146	[°C]		133 - 135			133 - 135		
Continuous use temperature max.	[°C]		80			80		
Coefficient of thermal linear expansion DIN 53752	[23 - 80 °C]		≈ 2 x 10⁻⁴ /K			≈ 2 x 10⁻⁴ /K		
Electrical characteristics								
Current flow resistance IEC 60093 / VDE 0303 Teil 30	[Ω x cm]	>10¹¹	<10¹¹	≤10¹¹	≤10¹¹	<10¹¹	<10¹¹	<10¹¹
Surface resistance IEC 60093 / VDE 0303 Teil 30	[Ω]	>10¹³	<10¹³	≤10¹³	≤10¹³	<10¹³	<10¹³	<10¹³

The above specifications are based upon the state of our knowledge and do not represent an assurance of qualities. Black coloured plates may exhibit antistatic properties. The recipient of our product is solely responsible for compliance with all existing laws and regulations.

OKULEN® 2000

OK 2000 is an ultra high molecular low pressure polyethylene with a molecular weight > 7.000.000 g/mol plus additives for the improvement of specific material properties.

When UHMW-PE has to meet very special requirements, even our OK 1000 can still be further optimized: OK 2000 exceeds the material types we have modified for the specific applications of our customers. With antistatic finish and additional lubricant for the conveyor industry. With added antioxidants, for example, which can be used at high temperatures. With additional flame retardant properties for

use in rail vehicle, machinery and mining construction. With enhanced antibacterial effects. And if you want properties for your specific applications which OKULEN does not yet have in its programme, then do not hesitate to contact us: For that is precisely why we have our own research and development department.



Better release
No friction: Truck lining of
OK 2000 blue 588.



In filling plants, components
of OK 2000 DryRun 912
ensure long service life.



OK 2000 AB 995 is the
optimum material for direct
contact with food.

OK 2000 – blue 588 and blue 589

With a particularly low coefficient of friction.

OK 2000 – AB 995

With such a good antibacterial effect that it is approved for direct contact with foodstuffs.

OK 2000 – DryRun 912

Modified with lubricant, antistatic and UV protected.

OK 2000 – F-Ex 999

With excellent flame retardant properties, tested according to UL 94-VO (vertical flame test). Halogen-free, corrosion and abrasion resistant.

OK 2000 – GB No. 675 + 983

Extraordinarily wear resistant.

OK 2000 – H. No. 925

Containing antioxidants and suitable for short-time use at higher temperatures.

Please ask for our data sheets with information about these and other special modified materials.

Standard colour/Appearance

blue

natural (white)

black

black-silver

green and black

white

OKULEN materials give a
shape to your ideas.



Everything you ever wanted:

When it comes to the dimensions, you have the greatest possible choice at OKULEN: Our sinter presses allow the production of large sized sheets. Our standard range also includes rods, wear strips and skived or extruded sheets. We are also able, to deliver special sizes for you.



Our semi-finished PE product range

By the way, OKULEN also produces and delivers semi-finished PP products on request. Have a word with us and outline your ideas – we assist you in realising your visions.

Comprehensive.

Fast.

Inventive.

Excellent.

Reliable.

Standard PE product range

Semi-finished products | pressed

Standard formats	OKULEN® 1000/2000 Thickness	OKULEN® 500/1000-REG Thickness
approx. 2000 x 1000 [mm]	6 - 400 [mm]	6 - 200 [mm]
approx. 2000 x 2000 [mm]	6 - 400 [mm]	6 - 200 [mm]
approx. 4000 x 1000 [mm]	6 - 150 [mm]	6 - 130 [mm]
approx. 4000 x 2000 [mm]	6 - 150 [mm]	6 - 130 [mm]
approx. 6000 x 1000 [mm]	6 - 150 [mm]	6 - 130 [mm]
approx. 6000 x 2000 [mm]	6 - 150 [mm]	6 - 130 [mm]
approx. 8000 x 1000 [mm]	8 - 125 [mm]	8 - 100 [mm]
approx. 1000 [mm] diameter	20 - 350 [mm]	20 - 140 [mm]
approx. 1200 [mm] diameter	35 - 150 [mm]	35 - 140 [mm]
Other formats possible on request.		

Semi-finished products | skived

Standard formats	OKULEN® 1000 Thickness
approx. 2020 x 1000 [mm]	1 - 10 [mm]

Semi-finished products | extruded

Standard formats	HDPE Thickness
approx. 2000 x 1000 [mm]	1 - 10 [mm]

Wear strips | skived

Standard formats	OKULEN® 1000 Thickness	OKULEN® 1000-REG Thickness
From 15 mm width	0,5 - 12 [mm]	1 - 12 [mm]
Available in rolls or cut lengths		

Rods | turned

Lengths	OKULEN® 1000 Diameter	OKULEN® 500/1000-REG Diameter
approx. 1.000 mm	dia. 20 - 350 [mm]	dia. 20 - 200 [mm]
approx. 2.000 mm	dia. 20 - 60 [mm]	dia. 20 - 60 [mm]
Other formats possible on request.		

Standard colours/Appearance

- natural
- green
[similar to RAL 6024]
- black
[similar to RAL 9005]
- black-multicoloured
- blue
[similar to RAL 5003]
- yellow
[similar to RAL 1021]
- red
[similar to RAL 3018]
- confetti

Other colours are available on request. When ordering, please specify RAL or Pantone shade.