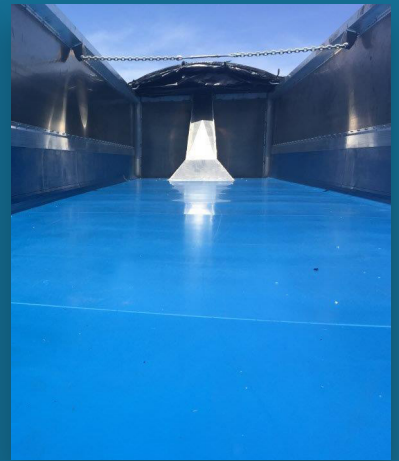
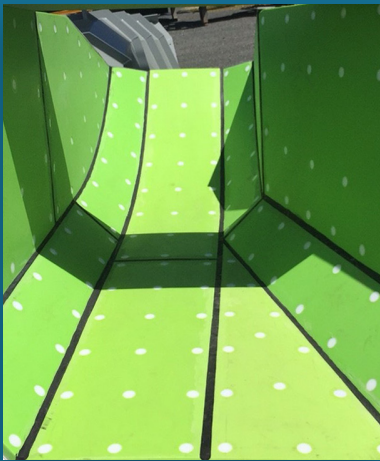


OKUSLIDE® OKULEN®

Technische Kunststoffe
Engineering Plastics

Drop Your Load With Okuslide®
For Bulk Material Handling & Mining



POWERED BY ePOL

RANGE OF PRODUCTS BY: **OKUSLIDE®**

THE **OKUSLIDE®** RANGE OF PRODUCTS

In the field of lining technology, the name **OKUSLIDE®** stands for highest quality resistance to wear and low sliding friction. In order to meet the demanding requirements of the bulk-goods industry, **OKULEN® Engineering Plastics** has cooperated with bulk-goods experts and users in developing additional lining materials ideal for use in many different fields of application.

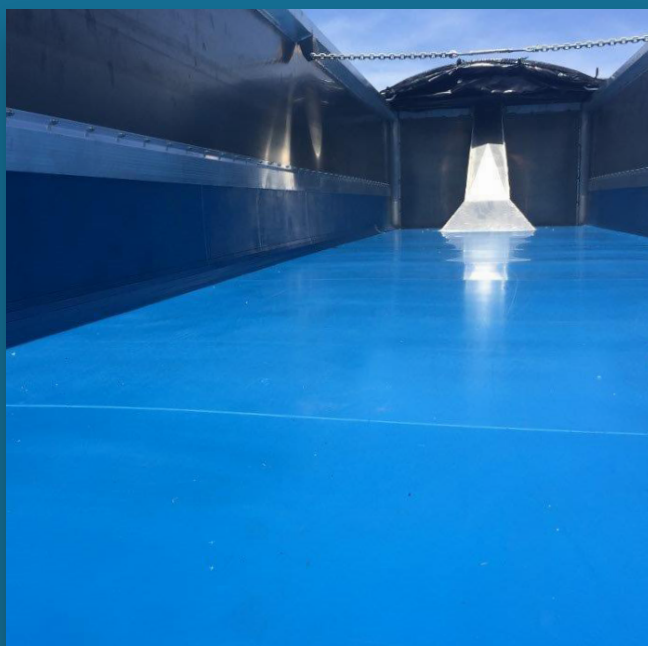
Members of the **OKULEN®** product range include: **OKUSLIDE®**, **GB2000**, **OKUSLIDE® HOTLINER**, **OKULEN® Natural Food** and **OKUSLIDE® AST**

OKULEN®

OKUSLIDE® PREMIUM BLUE FN5893 is an Ultra-High Molecular-Weight-Polyethylene (UHME-PE polymer). Special additives impart an improved low coefficient of friction (non-stick surface) making this material ideal for applications where sticking or caking creates a build-up of material which in turn causes material flow problems that result in time and money losses.

Developed for on and off road dumpers

OKUSLIDE® UHMWPE liners improves safety during unloading; reduces tip angles via increased material-flow; improves equipment life cycle; accomodates higher temperature payloads; eliminates caking; improves productivity and is UV stabilised.

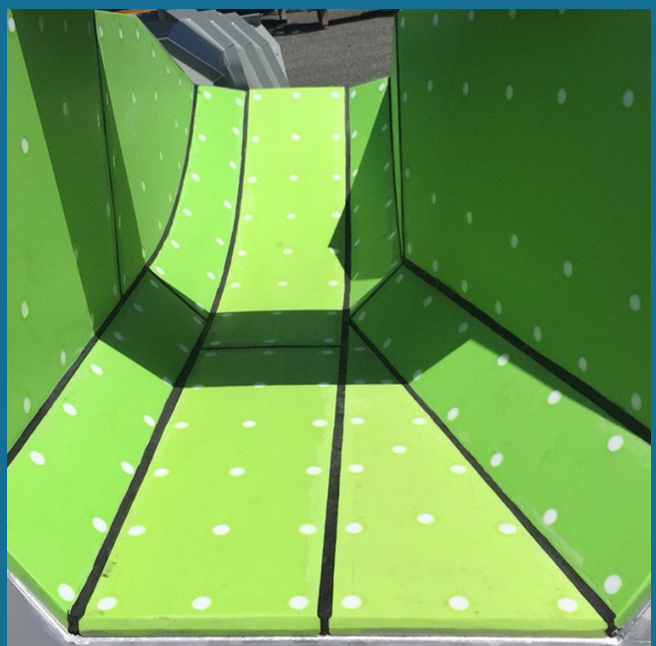


TECHNICAL DATA	TEST METHOD	UNIT	VALUE
Specific Gravity	ISO 1183	g/cm ³	0.95
Min/Max Service Temperature in Air		°C	-260 to +90
Tensile Strength Yield		MPa	>20
Tensile Strength Break		MPa	>40
Impact Resistance Notched Impact Strength	DIN 53505	MJ/mm ²	No Break
Co-efficient of Thermal Expansion		mm/(mmxK) x 10 ⁶	180
Relative Abrasion loss by Sand Slurry OKUSLIDE®			70 90

OKULEN®

OKULEN® UHMW-PE 2000 GLASS BEAD is enhanced with a glass filler which gives this plastic a higher abrasion resistance (9,2 mio. g/mol) than standard material. GB2000 offers excellent impact strength for tough applications; is low maintenance; has extreme wear resistant properties, has good sliding properties; great chemical resistance; is UV stabilised; has antistatic properites with a surface resistivity of <math>< 10^9 \Omega</math> and is BFR approved.

Applications include machinery construction; conveyor industries; agriculture & farming equipment; waste water & filtration systems and the wet section of the paper industry.



RANGE OF PRODUCTS BY: **OKUSLIDE®**

OKUFIX COVER STRIP

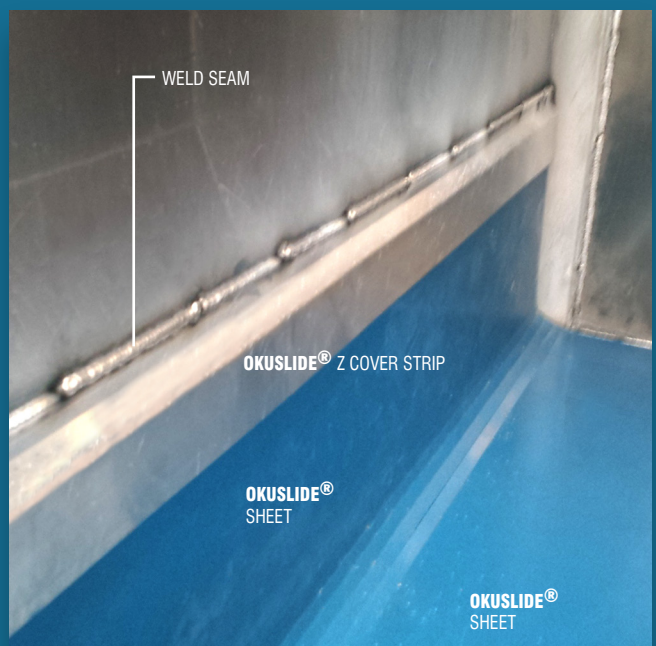
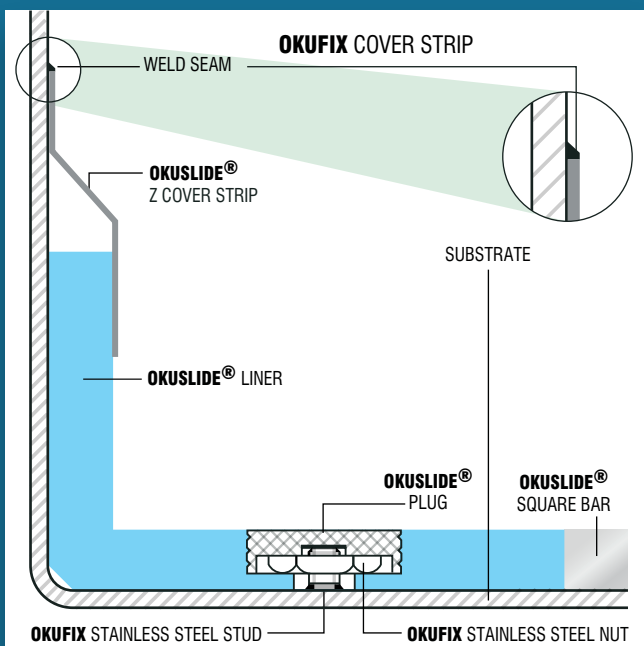
When installing any type of lining, the top row of sheets must be protected by a sealing strip to prevent material from working its way under the sheets. The strips may be aluminium (truck bed) or stainless steel. When fixing the strips, we ensure the material can expand and contract freely to take thermal effects into account.

LINER JOINTS: FUSION WELDING

We strongly recommends fusion welding of joints between the **OKUSLIDE** sheets. Fusion welding provides a totally sealed liner and eliminates ingress of material behind the liner.

Should material build-up between the joints or behind the liner occur, it will result in the lifting of the liner this exposing the liner to premature wear and a shorter service life. Material caught between the joints can also cause hang up and interrupted flow hence defeating the purpose of lining.

Joints to be welded are prepared prior to the panels being fastened to the substrate. Welds can be ground, planed or polished flush with liner for fine powder applications.



DROP YOUR LOAD WITH **OKUSLIDE®**

OKULEN® have been the technical partners for the development, production and processing of tailor-made high-tech polymers for clients all over the world for more than 40 years.

After our company was founded in 1977, renowned ski manufacturers were the first to order plastics from our production facilities: tread soles made with **OKUSLIDE® 1000**.

Our 240 committed employees in our medium-sized family firm is asked to share their professional experience and contribute their innovative spirit.

Over 8,500 tons of plastic are processed on our 19 presses every year. Precast parts are then machined on our 21 lathes, profiling machines and CNC milling centres in downstream further processing.

OKUSLIDE® is a family of polymer alloys that solve the problems of friction, wear and the flow of material across many industry sectors.

An exceptional low friction surface, outstanding wear resistance, high impact strength, excellent chemical resistance and superior performance in demanding applications characterise the products key properties.

OKULEN® Engineering Plastics is a world-wide leader with more than 90 years of experience in the development and production of semi finished products made of engineering plastics.

In close co-operation with our customers we developed a range of **OKUSLIDE®** grades that are tailored to the different lining applications with specific requirements.

Highly qualified staff, superior material development, state-of-the-art production facilities, laboratories and a certified quality management system are the basis for the quality and economic efficiency.

Our excellent reputation among the world's leading flow consultants and engineering experts in the field of bulk solids flow has been achieved by earning respect based on providing the industry with unmatched consistent, reliable solutions to flow problems.

OKUSLIDE®

This new formulation has specifically been developed for the bulk material handling and mining industry to reduce typical flow problems of bulk solids in bins, hoppers, chutes, truck beds and other applications. However, every application makes its own special demands on the lining material.

The **OKUSLIDE®** range combines the best surface friction qualities with abrasion resistance not only to promote bulk material flow but also to withstand the abrasion of flowing bulk materials in rugged applications under different environmental conditions.

OKUSLIDE® grades are based on a specific formulation of Ultra-High-Molecular Weight Polyethylene (PE-UHMW/PE 1000) that has been developed for use as a lining-material either in new construction or as a retrofit.

ECONOMIC ADVANTAGES

Compared to steel, **OKUSLIDE®** has considerable economic benefits which include:

LOWER COST

Lining an existing bin with **OKUSLIDE®** is about one third of the cost for conventional steel.

LOWER WEIGHT

For example, the refurbishment of a 200m² steel bin, with **OKUSLIDE®** would achieve a reduction in weight of **almost three tons** compared to the standard method of welding steel sheets. **OKUSLIDE®** reduces the load on the structure and makes installation work much simpler.

LONGER LIFE SPAN

The life span of **OKUSLIDE®** is substantially longer than that of conventional construction steel. In the sand-slurry wear test, **OKUSLIDE®** achieved a value of 80 which is 46% better than steel at 150 (S235JR).

RANGE OF PRODUCTS BY: **OKUSLIDE®**

HOTLINER PREMIUM RED 3544

Engineered to withstand higher temperatures and still keep its abrasion resistance, it uses a special ceramic blend of UHMW-PE polymer (9,2 mio. g/mol) designed for use in dump truck bodies to protect the dump truck body and enhance material flow. In high temperature applications the filler acts as a blocker and stops oxidation which would break up UHMW material at higher temperatures.

HOTLINER 3544 takes a unique path in the mixing and preparation processes and we are continuously striving to develop improved combinations to achieve even better material properties.

HOTLINER Premium Red 3544 properties include excellent sliding; ultra-low tip angles; ultra-long life; low coefficient of friction; virtually zero moisture absorption; ceramic reinforcement; ultra high abrasion resistance; antioxidants for longer life; nearly no sticking of bulk material; is UV stabilised and can be welded!

HOTLINER is available as complete systems which combines customer consultation, material selection, design and assembly.

NATURAL 1000 FOOD GRADE

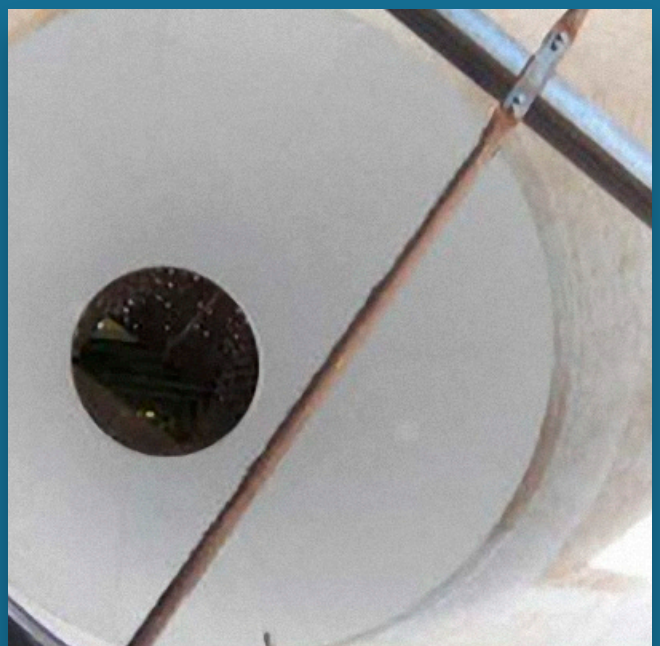
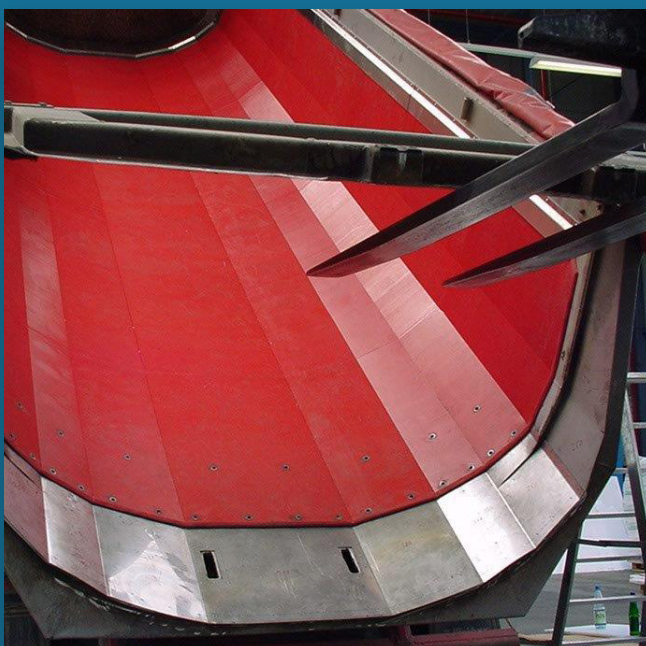
With its FDA approval, **OKULEN®** NATURAL is ideal as a lining material for contact with bulk goods in the food industry.

With ultra-high molecular weight polyethylene and a molecular weight of 5 Mio.g/mol, NATURAL 1000 is extremely versatile and has formidable resistance to abrasion factors, water absorption and chemicals, however, like all polyethylene it is not suitable for high temperature applications.

OKULEN® has material properties that make it extremely versatile. The material is ideally suited for mechanical engineering. Parts are especially used in plant construction and handling technology. The material is also ideal for port construction and hydraulic engineering, as insulating linings for high-traffic areas and in the sports and skiing industry.

OKULEN® defies low temperatures and most chemicals and is highly resistant to abrasion.

Features & strengths of **OKULEN®** NATURAL 1000 include FDA approved; high resistance to wear; high impact strength; very low coefficient of sliding friction; low moisture absorption and its applications include the food industry; goods wagons and bin linings.



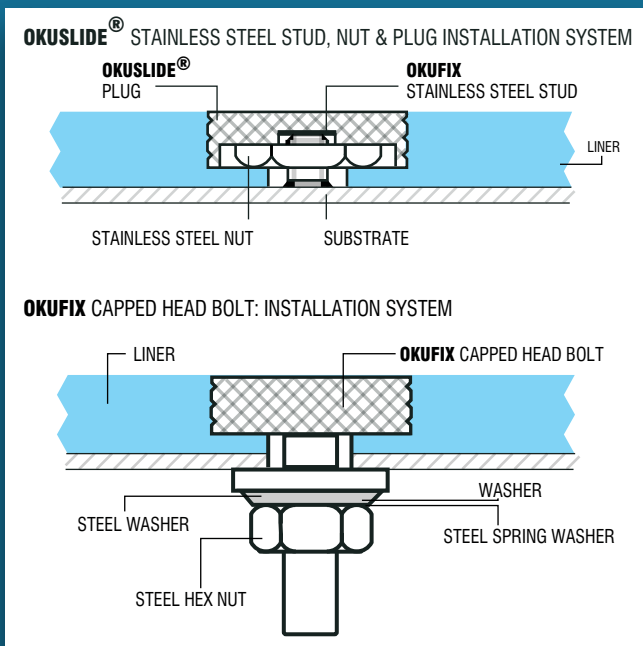
OKUFIX FIXING TECHNOLOGY

OKUFIX is used to mechanically fasten the substrate using bolted or welded fasteners. Both types are acceptable and usually chosen based on the requirements of the application and the structure being lined.

Proper installation by a qualified distributor or installer is critical to the life expectancy of the liner.

OKUFIX STUD WELDING

OKUFIX fixing points are best prepared in the plant, pre-drilled to suit your specific project and delivered on site to save time on installation. Sheets are bolted into position with studs and hex nuts. We recommend a nominal distance of 250 mm and 50mm from edges.



RELATIVE VOLUMETRIC WEAR ACCORDING TO THE SAND-SLURRY PROCESS

In the sand-slurry test, a mixture of sand and water is used to measure the abrasion resistance of a sample compared to a defined reference material of PE-UHMW with a molecular weight of 5 million g/mol to which a fixed value of 100 is assigned.

The volume lost by the test sample during the test is then stated as an index compared with that of the reference material. The lower the value achieved, the better the resistance to abrasion.

TYPICAL APPLICATION

The products of the **OKUSLIDE®** range are used in a wide variety of industries that handle bulk materials from the mining level up to and including the final processing or use of the product.

Changes in moisture and particle size affect the product's flowability. Conventional steel surfaces become rough or corroded causing bulk material to stick to the steel.

BULK MATERIALS HANDLED

Coal	Iron Ore	Copper Concentrate
Clay	Limestone	Chemical Powders
Soda Ash	Nickel Ore	Synthetic Gypsum
Peat	Kaolin Clay	Zinc Concentrate
Salt	Silica Sand	Soap Detergent
Wood Chips	Potashe	Phosphate
Dust	Talc	Bauxite

MINING

Over burdened vehicles	Shovel liners
Stacker/Reclaimer bucket liners	Chute liners
Front-end loader buckets	Scrapers
Dragline bucket liners	Hopper liners

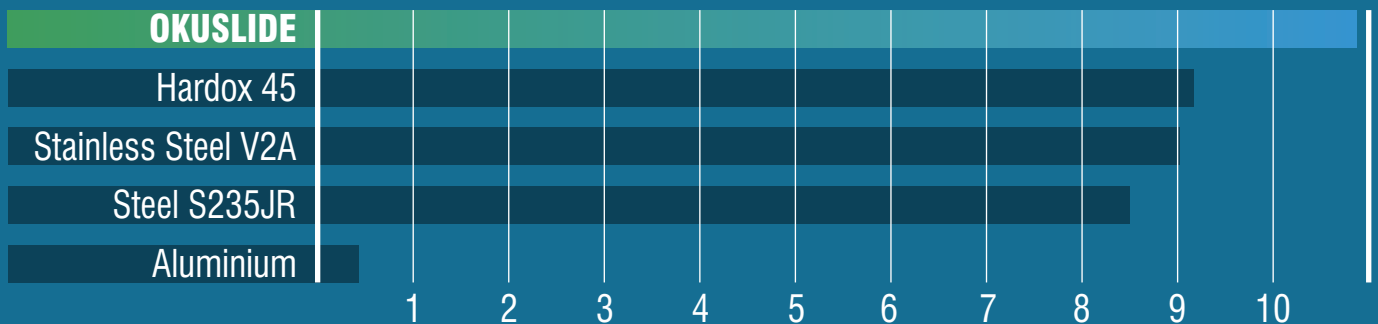
STORAGE, HANDLING & PROCESSING

Silos, bins, bunkers	Reclaim hoppers
Tipper dump hoppers	Rail hoppers
Vibratory feeder pans	Receiving hoppers
Dozer blade liners	Skirting
Belt scrapers	Surge bins
Batch hoppers	Hoppers
Storage silos and bins	Chutes
Screw conveyors	Feeders

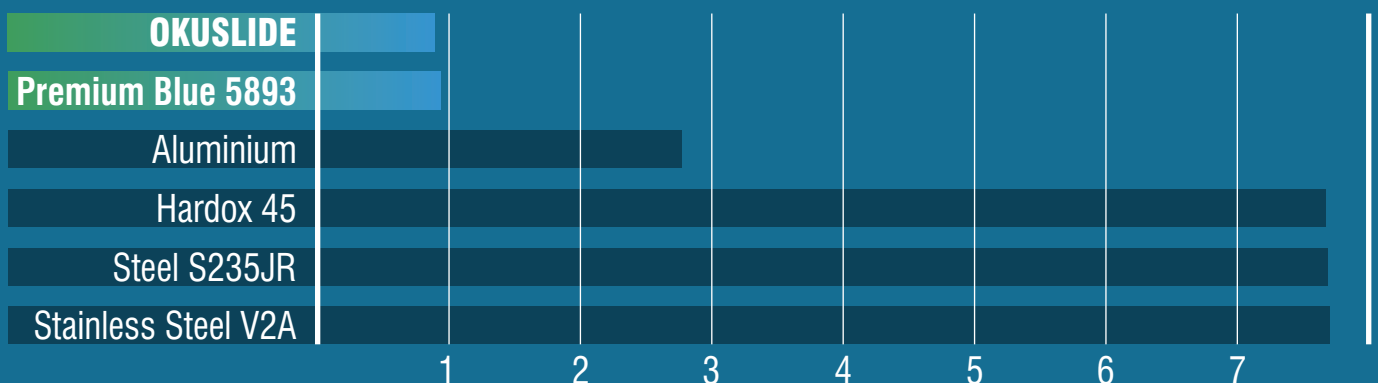
TRANSPORTATION

On highway bed liners	Barges	Railcars
-----------------------	--------	----------

WEAR FACTOR COMPARISON CHART



WEIGHT FACTOR COMPARISON CHART



RANGE OF PRODUCTS BY: OKUSLIDE®

OKULEN® AST 1000

With its permanent antistatic quality, **OKULEN®** AST 1000 is especially suitable for applications in areas where there is a risk of explosion. The material has high impact resistance making it exceptionally useful for outdoor use such as open-cast mining.

Its inherent characteristics, apart from permanent antistatic properties and high impact strength, are excellent UV stability and high wear resistance.

AST 1000 is widely employed in industries such as open-cast mining; truck beds; excavator-shovel liners; conveyor ducts and hopper linings.



OKUSLIDE® packed liners

STOCK SHEET SIZES	
DIMENSIONS	TYPICAL THICKNESSES*
2000 X 1000mm	12-25mm
3000 X 1200mm	12-25mm
3000 x 2000mm	12-25mm

* If required, also available in thicknesses from 3 - 400mm

SHEET SIZES ON REQUEST	
DIMENSIONS	TYPICAL THICKNESSES*
4000 X 5000mm	6-50mm
6000 X 2000mm	6-50mm
6000 x 3000mm	6-50mm



Weld wire coils available.

	OKUSLIDE®	GB2000	HOTLINER	NATURAL	AST
Resistance to wear	●	●	◐	◐	◐
Impact strength	◐	◐	◐	●	◐
Sliding characteristics	●	◐	◐	◐	◐
Antistatic properties	●	●	●	●	●
UV resistance	●	◐	◐	●	●
Service temp °C continuous	-250...80	-250...80	-250...110	-250...80	-250...80
Service temp °C briefly	-250...130	-250...130	-250...190	-250...130	-250...130
Delivery	EX STOCK	ON REQUEST	ON REQUEST	ON REQUEST	ON REQUEST
LEGEND	VERY GOOD	GOOD	NOT GOOD		



Unit 1 31 Laser Drive Rowville Victoria Australia 3178

Phone: **1800 215 216**

Fax: +613 9764 1009

Email: info@engineeringplasticsonline.com.au

Web: <https://www.epol.net.au/>

Every effort has been made by ePOL to ensure the accuracy and reliability of the data contained within; however, ePOL makes no representation, warranty or guarantee in connection with this report and hereby expressly disclaims any liability or responsibility for loss or damage resulting from its use or for the violation of any authorities having jurisdiction with which this brochure may conflict.

AGENT: