

CHUTE AND HOPPER LINING

BULK HANDLING FLOW PROMOTION



FLOW PROMOTION SPECIALISTS



For applications of LIMITED WEAR, but requiring the superb properties of UHMWPE for anti-scaling, anti-static, or chemical resistance.



For applications of HIGH ABRASIVE WEAR. Also with the benefits provided by EnergyPro.



For applications of HIGHEST ABRASIVE WEAR. This grade is proven and tested to outperform any other PE brand on the market on abrasion and impact. Also, with all of the benefits of EnergyPro.

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From lining system design, to fabrication and installation - we are with our clients every step of the way.

Advanced Polymer Solutions has 30+ years of combined technical knowledge and practical experience solving lining problems for customers across many industries associated with bulk material handling.

We will partner with you every step of the way to ensure you receive the best value in outcome, providing advice and support, as required, with design and fabrication.

In wear and scaling industries, customised solutions should be the standard, optimisations should not be a unique feature – but the benchmark offering.

To do this, we offer a variety of materials, but specialise in our own trademarked UHMWPE blends.

Ultra high molecular weight polyethylene has the highest impact and abrasion resistivity of any plastic (PE). Furthermore, the natural surface roughness is orders of magnitude smoother than baseline rubbers or metals. We believe it provides the best balance between price and performance for the widest range of applications.

Surface Roughness

EnergyPro, WearPro, and WearPro+ trademarked blends offer the lowest surface roughness in the industry.

0.05 ISO 8295 coefficient of friction. Lower than PU. Lower than Nylon. Lower than FRP.

The lowest in the industry.

Bulk materials, especially fines, have a natural attraction to metals. This phenomenon occurs even with highly polished stainless steel or alloy wear plates, and is a function of time and temperature. Over time, with the deterioration of metals, this attraction is increased, especially in the lower velocity corner areas. Creating exponential reliability issues and early failures in otherwise long lasting sheets.

Our sheets don't see this deterioration. UHMWPE is in fact hydrophobic

Each grade has the same surface roughness and self-lubrication properties. The variations are based on impact and abrasion performance only.

When you couple the surface roughness with self-lubrication, flow promotion is of course improved.



Abrasive Performance

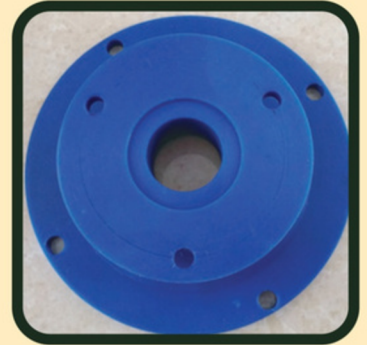
Bulk materials are abrasive and difficult to handle.

WearPro is all about balance.

Providing an optimal balance between abrasive performance and commercial competitiveness.

Our WearPro product is vastly tested, across tens of millions of dollars of highly abrasive tailings processes.

Clients should expect abrasive performance to exceed that of Steel by at least four times. For every multiple of solid size below 20mm max, clients should expect the same iteration in improvement when compared to steel. I.e. in processes of 5mm max solid size, WearPro will outperform Steel 4:1, but at 1mm it will outperform closer to 8:1.



Installation Methodology

We firmly believe in ISO 9001 methodology in everything that we do.

This means that a key pillar of our business is also a requirement of ISO9001.

We rely and solicit on the feedback of our customers concerning their products and services. By this method, we can proactively establish needs, processes, and outcomes. Ensuring stakeholder feedback, and performance on which we all rely.



Our principles:

1. Analyze

- Review Technical Process Information
- Discuss and agree on Material type
- Consider installation Location and available Equipment
- Consider the installation and operational Environment

2. Pinpoint problem areas

3. Develop and propose the best solution

4. Fabricate a custom lining system upon agreement

5. Advise contractors during installation as appropriate to deliver optimal outcomes

6. Follow up on the results

Considered Installation Benefits

When a chute is lined with WearPro sheet there is no need for potentially unsafe and costly alternatives for improving flow. Our liners promote production efficiency, reduce ongoing costs, as well as reducing noise and creating a safer workplace.

In the case of comparing to metals and alloys, which are prone to bridging and ratholing; the operator or production personnel generally take extreme and arduous measures to improve flow performance. Utilising jackhammers is extremely harmful to the bin and is likely to result in warp – eventually reducing the integrity entirely. This standard operating practice creates ledges and exposes rust that in turn creates areas where bulk materials will build up. Personnel could injure themselves when swinging a heavy sledgehammer overhead or handling a jackhammer on the side of a bin or hopper.

Other automated methods for encouraging flow are air cannons and/or vibrators. Both methods are extremely noisy and costly to run. These methods have no affect on already built-up bulk materials, and they cannot ensure flow is on a first in – first out basis.

Fastenings and Sheets

- Capped Bolts
- Plugs

**Custom sheet sizes available
on request**

Locally machined

Currently Stocked:

- 3000 x 2000 x 12mm
- 3000 x 2000 x 15mm
- 3000 x 2000 x 20mm
- 3000 x 2000 x 25mm
- 2000 x 1000 x 50mm
- 2000 x 1000 x 100mm



Liners need to be mechanically fastened to the substrate by use of capped bolts or stud welded fasteners. Capped bolts are predominantly used when there are pre-existing holes in the chute or hopper.

Our sheets are pre-drilled if required to suit either capped bolts or weld studs using CNC equipment or a counterboring drill bit.

For further information on your Wearpro lining system, please contact Advanced Polymer Solutions.

