

**LINATEX®**  
Rubber Products

**Rubber Products Catalog**

Excellent  
Minerals  
Solutions



**DIAMOND**  
[diamondequip.com](http://diamondequip.com)



# DIAMOND

diamondequip.com



# Linatex® rubber products provide unmatched wear performance in the toughest abrasion environments.

At Weir Minerals Linatex our rubber experts are acknowledged around the world as the foremost authority in the use of premium natural rubber for abrasion, impact and corrosion resistance.

With a history dating back to the first processing of commercial rubber in Malaysia, Bernard Wilkinson invented Linatex® rubber products in the 1920s. Wilkinson's invention of Linatex® premium rubber revolutionized the industry.

Linatex® premium rubber is a proprietary vulcanized natural rubber, produced through a unique compounding process, using high quality natural latex. It exhibits outstanding strength, resilience, and resistance to cutting and tearing, giving superior performance in wet abrasion.

Our sustained performance advantage in the rubber industry lies in our well-proven, patented manufacturing process. Our unique process creates a product that provides superior performance when compared to other wear materials.

Our rubber products are extremely strong, tough and resilient. When this is combined with the excellent tear, cut and abrasion resistance, our rubber products are irreplaceable in abrasion trouble spots.



Weir Minerals Linatex is a manufacturer and global supplier of high quality rubber products across a variety of industries. Our commitment to our customers is simple. Selecting the correct rubber from the Linatex® rubber products range will provide the end user with the 'best in field' performance and lowest cost of ownership.

**The Linatex® rubber product range — Premium wear resistant rubber for sliding and wet abrasion service**

- Linatex® premium rubber: A 95% natural rubber product manufactured using a proprietary Liquid Phase Compounding process that exhibits outstanding resilience, strength and resistance to cutting, tearing and abrasion. *With Linatex® premium rubber there is no equivalent*
- Linatex® HM rubber: Modified version of Linatex® premium rubber with added dry abrasion and chemical resistance
- Linatex® VS rubber: Wear resistant uncured rubber for fine slurry applications

**The Linard® rubber product range — Developed for applications where heavy duty impact and wear resistance is required**

- Linard® 60 rubber: A silica reinforced natural rubber product uniquely designed to provide high resilience with good cut, tear, and abrasion resistance. Suitable for moderate impact, wet or dry, wear and skirting applications where abrasion and sticking are an issue
- Linard® HD and HDS rubbers: Linard® HD60, HD70, and HDS rubber sheet are found in applications where only the toughest and hardest rubber survive. Formulated to withstand severe abrasion in dry or humid conditions. Particularly suited to high impact, heavy duty applications where cutting and tearing is a primary cause of wear

**The Linagard® rubber product range — Developed for use in specialized, harsh environments where more than abrasion is required**

- Linagard® NBR rubber: Nitrile based rubber specifically formulated for excellent abrasion resistance in the presence of oils and chemicals
- Linagard® FG rubber: A natural rubber compound manufactured from FDA (Food and Drug Administration 177.2600) approved ingredients. It is designed for applications requiring safe long term food contact and wear resistance
- Linagard® OSR rubber: The new generation of rubber developed specifically for the oil sands industry. Provides oil, chemical and weather resistance in addition to unmatched abrasion resistance
- Linagard® BB rubber: A halogenated butyl that has been formulated to provide excellent protection for aggressive chemical and high temperature applications
- Linagard® OZ rubber: A natural rubber vulcanized formulated for excellent resistance UV light and ozone attack

**General Service**

- MA45 rubber: A natural rubber compound for general purpose applications such as gaskets and seals, dust curtains, tank and pipe linings, chute and hopper linings, ballistic sheet, etc.

### **Lining and Fabricated Products**

Linatex® rubber products are extremely versatile and suitable as protective lining for a variety of surfaces to minimize wear and corrosion of the base structure.

Typical lining applications include:

- Chute lining
- Pipe lining
- Vessel lining
- Hose construction

In addition to our product's versatility, Linatex® rubber products are lighter and more flexible than other wear liner materials, such as steel and ceramics. This aids installation, which can be completed at one of our many service centers or on site. Linatex® rubber products can be bonded quickly and permanently using our proprietary range of adhesives. Both our cured and uncured rubber products are manufactured in sheet form of varying thickness, allowing it to be cut or configured into any shape that the application may require.

Supported by an unparalleled worldwide network of experts, Weir Minerals' distributors and applicators are fully trained and qualified to complete rubber linings and fabrications to suit your specific requirements.

### **Performance Components (Molded Products)**

At Weir Minerals Linatex we manufacture high quality and complex moldings utilizing some of the largest presses commercially available. These facilities are strategically located across the globe to ensure local access to our product range.

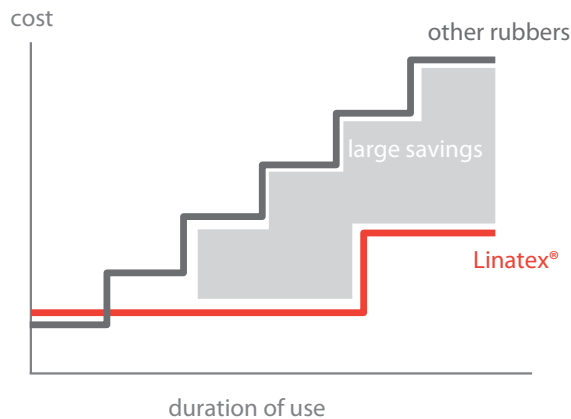
Our highly experienced engineers continuously develop innovative new moldings that utilize the unique properties of the Linatex® rubber products. This produces a final product that is precise and delivers exceptional performance. All of our molded components are specifically designed to meet exacting process requirements across an extensive range of industries and applications.

The range of performance components consists of replacement wear parts for use in process equipment across all elements of mining and industrial processes. This includes pumps, hydrocyclones, flotation cells, screens (molded screen media), conveyor systems, material handling systems and grinding mills.

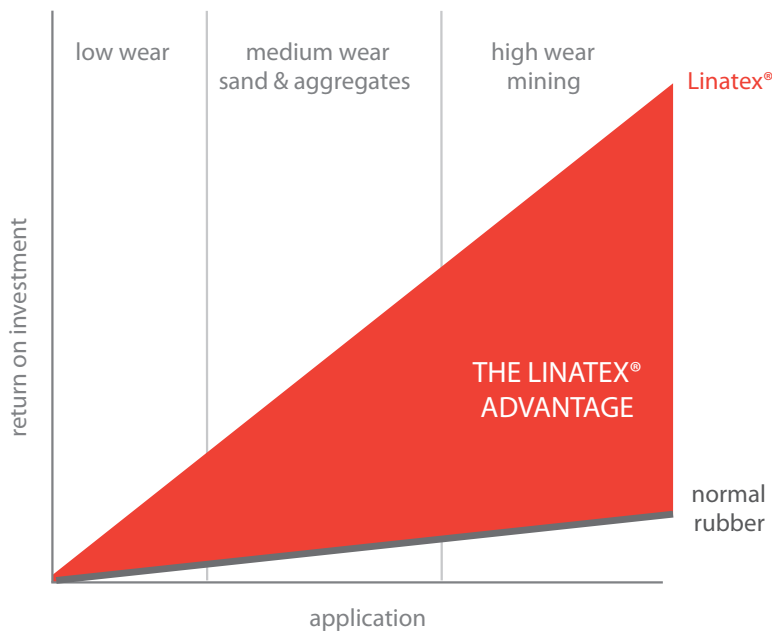
We believe that our proven track record combined with our well developed industry experience and knowledge, is what differentiates our molding facilities from other molding facilities around the globe.



### Linatex® Premium Rubber vs Substitute Products in Wet Abrasion Environment



### The Linatex® Premium Rubber Advantage Over Normal Rubber



When using Linatex® premium rubber, experience proves the more aggressive the wear environment, the greater the return on investment.

### Cost of Wear

Linatex® natural rubber products demonstrate exceptional performance over time in both wet and dry applications.

These schematic performance charts demonstrate typical performance/replacement timelines for Linatex® rubber products in comparison to other rubbers.

Although the initial up front costs of using Linatex® premium rubber might be slightly higher, the superior performance results in a lower cost of ownership, so that Linatex® rubber products pay for themselves over and over again.

### What Makes Linatex® Premium Rubber Better?

Pure natural rubber is an outstanding abrasion resistant material, particularly for handling slurries. The inherent properties of strength, resilience and cut resistance have a direct effect on wear performance.

Wear properties are at their best straight from the tree. The more work that is put into mixing the rubber, the more these properties are destroyed by shearing and breaking up the long molecular chains.

Conventional dry processing is based on shearing the rubber during mixing. This significantly changes the average molecular weight distribution and leads to a significant drop off in properties and performance. The effect is similar to starting out with a perfectly good elastic band, cutting it up into short lengths then trying to join it back together again.

In contrast, our unique method gently blends the latex, causing minimal damage to the microstructure of the rubber. This results in a product fundamentally as nature intended; strong, resilient and resistant to abrasion.





### Technology benefits

The processing of natural rubber from natural latex encompasses two distinct operations. The compounding and coagulation of the latex into uncured rubber crepe, and the pressing and curing of the uncured rubber into finished sheets.

For decades these processes have been accomplished by processing individual batches of product which, even with the utmost care, increases the potential for batch to batch variation.

Our state of the art rubber processing facility achieves three key aims:

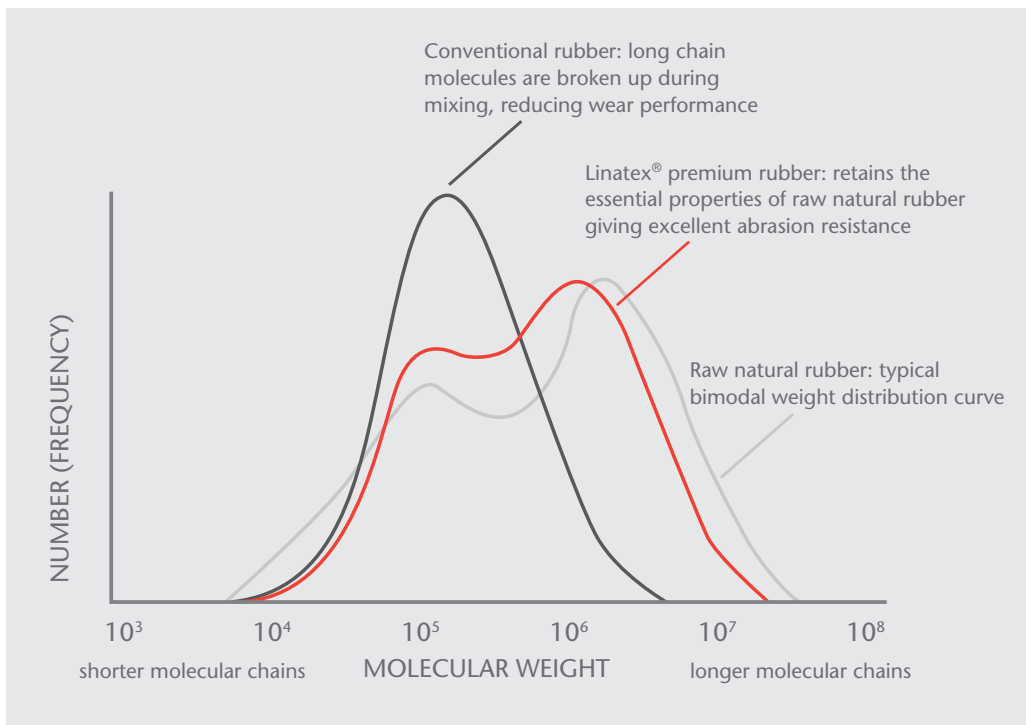
1. A 100% commitment to the preservation of superior natural rubber properties.
2. High technology automated processes, allowing improvements in volume and output.
3. Continuous processing, allowing better control, higher tolerances and improved consistency over batch processing.

The process is fully automated. Coagulation of the compound latex is now heat assisted and the drying of the crepe is accomplished using microwave energy, all within a single computer controlled process.

### Advanced Continuous Press Technology

As the compounded uncured rubber moves from the process operation to the pressing phase, the thickness of each sheet is digitally controlled to achieve thickness and uniformity which is consistently repeatable, or changeable according to requirements.

Linatex® premium rubber is an amazing combination of natural rubber properties and twenty-first century manufacturing capabilities.





## Selecting the Appropriate Rubber

To select the most appropriate compound for an application, many factors need to be taken into account. Understanding the following factors is critical to making the right selection:

### Particle Size and Weight

In order to achieve the best possible operating economy and the longest service life, it is usual to increase rubber thickness within certain limits to cope with larger and heavier particles.

Impact of particles from increasing height also requires increased rubber thickness to absorb compressive forces.

As the particle hits the surface, the rubber deforms, absorbing the kinetic energy of the particle. The resilient nature of rubber returns most of this energy to the particle, causing it to rebound. There will be little or no wear and no permanent deformation.

However, if the particle momentum is too great relative to the rubber thickness, the impact force cannot be absorbed and the rubber may cut or tear.

### Velocity

In impact and sliding abrasion situations there is a critical speed above which elastomers are unable to recover and absorb energy. In this case, the product's resilience cannot be used to its full extent and the surface may deteriorate more rapidly.

For velocities above 10m/s (30ft/s) consult your Weir Minerals Linatex representative.

### Angle of Impact and Sliding Wear

The angle of impact of the particle relative to the wear surface is of great importance in designing chutes, hoppers and rubber linings in general. The effect of different angles on wear rate can be significant.

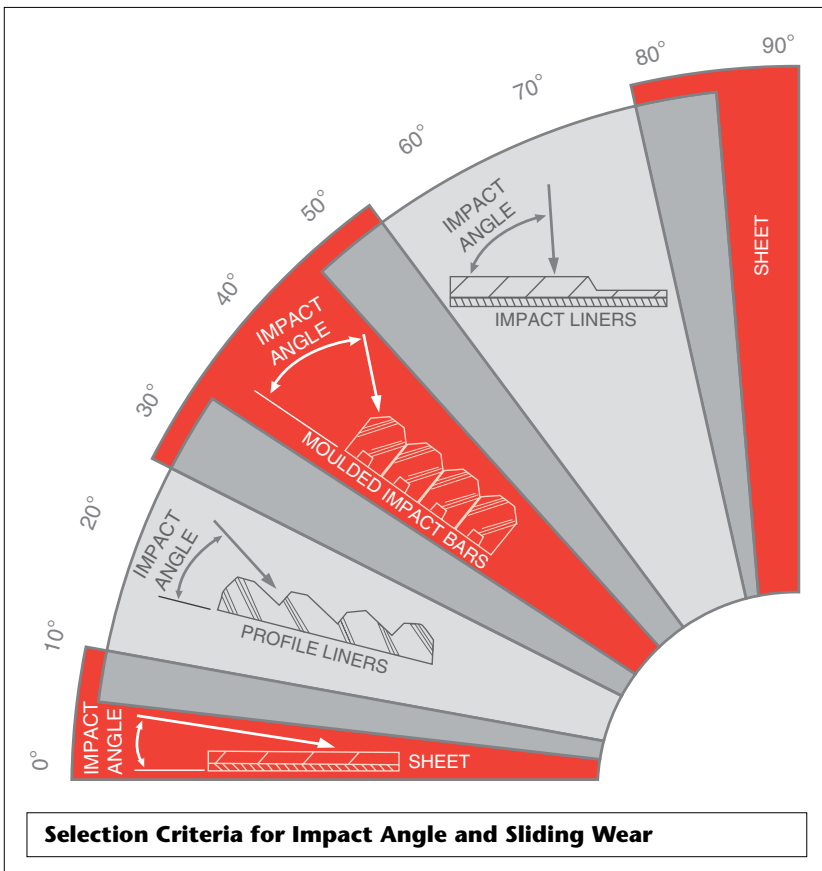
At 90° impact angle, resilience is the major factor in resisting wear, but as the impact angle reduces to around 50°, tear resistance becomes more important. At very low impact angles, slurries are best handled by flat Linatex® rubber sheet. This applies to pulley lagging and applications involving general sliding wear, where the abrasive force is tangential or in-plane to the surface.

### Rubber Hardness and Physical Properties

In broad terms, harder rubbers such as the Linard® rubber range are preferred for combating high impact/cutting forces that often occur when handling coarse materials. Linatex® premium rubber, a low durometer rubber, gives excellent results when used in abrasive slurry service or sliding abrasion, where fine to medium particles are being handled.

Other physical properties can often play a significant role in optimizing performance. For example, good resilience is required when screening sticky materials. Rubber elongation is the important factor in the design of fabricated seals and bellows. The key to specifying the correct rubber is in selecting the best combination of properties to suit the application.

We will work with you to select the optimum rubber for your specific application.





## Temperature

The temperature of the application in which the rubber will be used is important. The temperature limits of Linatex® rubber compounds vary. For example, natural rubbers are generally not recommended in applications above 70°C/158°F, whereas synthetic rubber compounds such as Linagard® BB rubber can be used in applications at temperatures up to 120°C/248°F.

It is also important to take into account the temperature limits of the adhesive system being used if rubber lining is taking place. Most rubber adhesive systems are limited to temperatures up to 100°C/212°F.

If you have any questions, please contact your local Weir Minerals representative and/or the relevant Product Specification Sheet.

## Chemical Environment

Different rubber compounds exhibit varying degrees of resistance to chemicals. Natural rubber, for example, is unsuitable for use in contact with hydrocarbons. In this situation, a Linagard® rubber formulation is more suited.

We offer a range of rubber materials which maximize potential applications in chemical environments. A chemical resistance reference chart for the Linatex® rubber products is available upon request. The chemical composition of the slurry or application should always be verified to confirm that the rubber being selected is suitable.

## Noise and Vibration

Occupational health and safety regulations in many countries require that industry complies with specific noise level standards for the protection of employees.

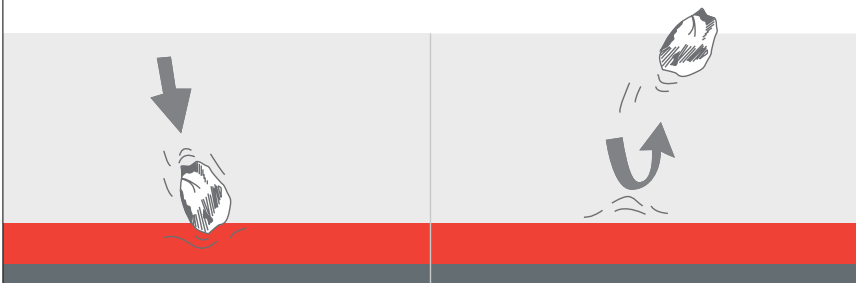
Rubber lined structures and fabrications play a prominent role in creating a more comfortable working environment. This is done by reducing noise and vibrations, often with the additional benefit of controlling dust dispersion. Weir Minerals has a large list of Linatex® rubber products reference sites on which to draw their expertise and can advise the optimum design of rubber lining and estimate noise and vibration reduction for your project.

### Selecting Rubber

This diagram demonstrates the reason rubber outperforms steel in many abrasive environments. It is the ability of the rubber to absorb an impact and then return the energy from the impact back to the particle that results in higher wear performance.



Abrasive particle striking non-elastic metal surface. Conversion of kinetic energy into impact, friction and noise.



Abrasive particle striking resilient rubber surface. Rubber deforms under load and returns most of kinetic energy to the particle without rate of wear experienced above.



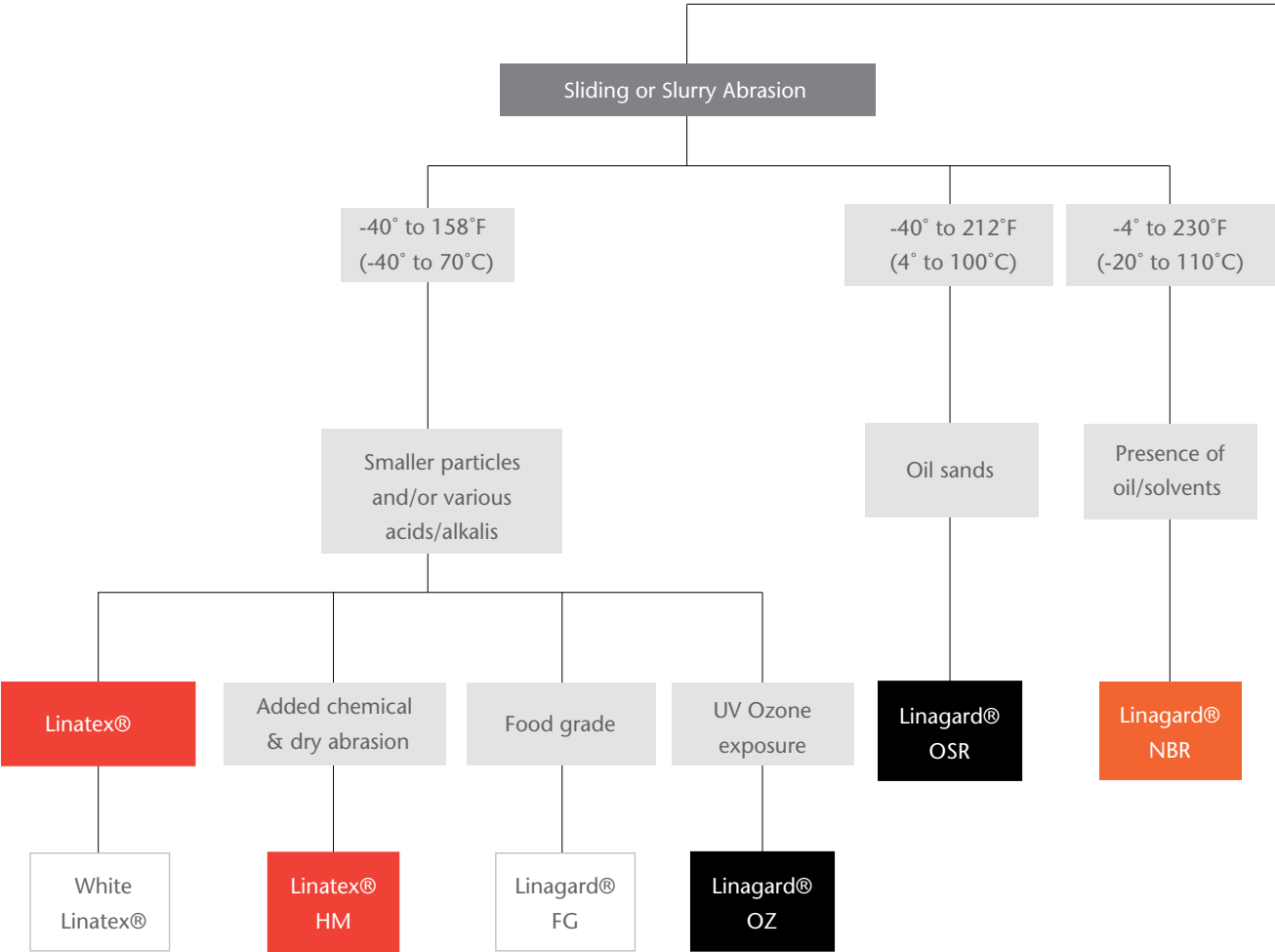


**The Complete Solution**

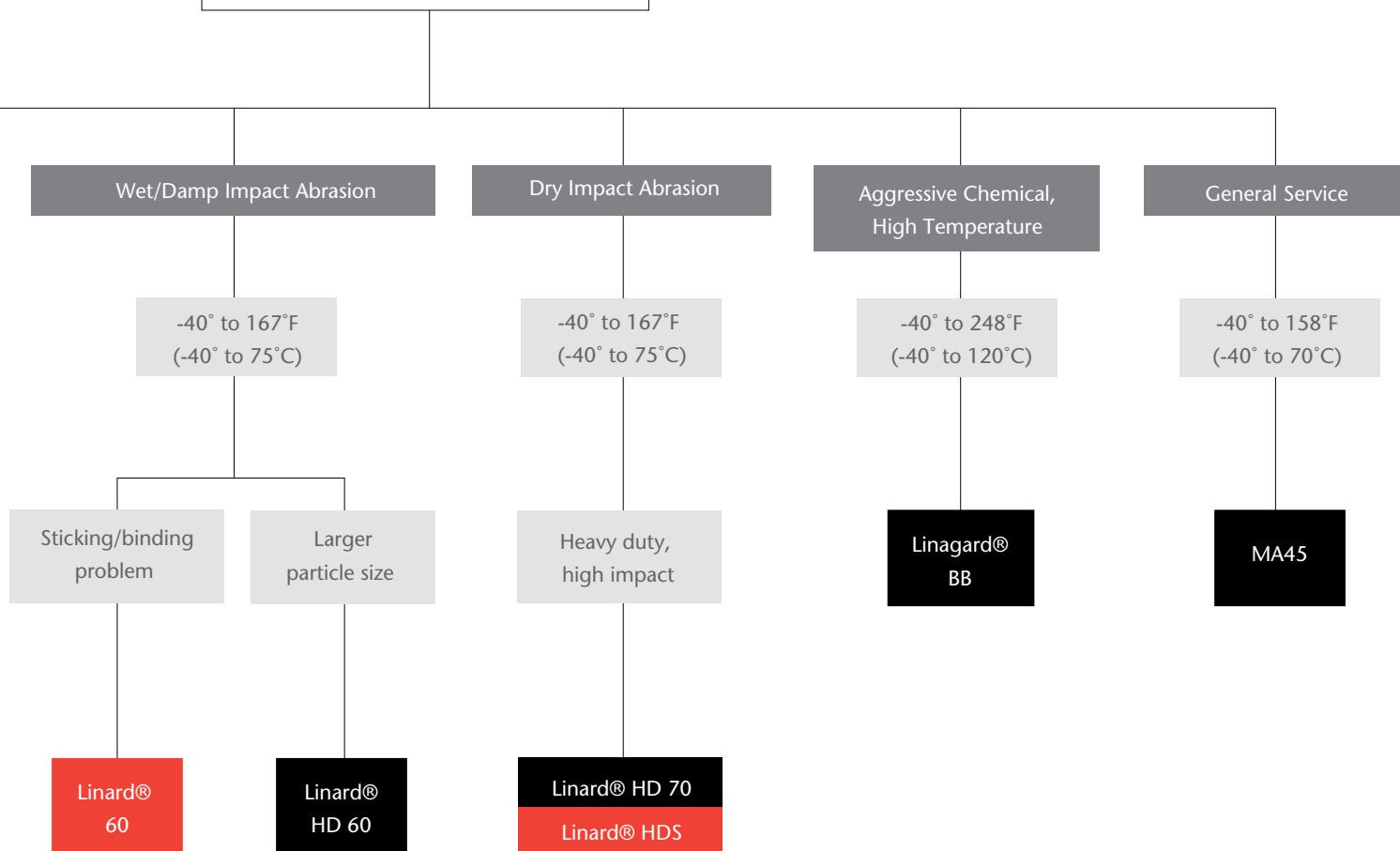
Many companies may claim to provide a rubber solution, however we deliver on this claim. We have over 85 years experience in the production, testing and application of rubber products into many industries. As a supplier and applicator of our rubber products, Weir Minerals Linatex takes full responsibility for all facets of the lining project.

We appreciate that the correct application of rubber is just as critical to the success as the quality of the rubber employed. We utilize high quality proprietary adhesives and employ highly capable rubber liners. This ensures the best in field performance that customers have come to expect from Linatex® rubber products is achievable every time.

We have facilities in most of the major mining regions of the world, supported by an extensive list of distributors. This gives customers the reassurance that when they purchase our products, support is close by.



## Linatex® Rubber Products Selection Chart



**WARMAN®**

Centrifugal Slurry Pumps

**GEHO®**

PD Slurry Pumps

**LINATEX®**

Rubber Products

**VULCO®**

Wear Resistant Linings

**CAVEX®**

Hydrocyclones

**ENDURON®**

Comminution Equipment

**KHD\***

High Pressure Grinding Rolls

**FLOWAY® PUMPS**

Vertical Turbine Pumps

**ISOGATE®**

Slurry Valves

**MULTIFLO®**

Mine Dewatering Solutions

**HAZLETON®**

Specialty Slurry Pumps

**LEWIS® PUMPS**

Vertical Chemical Pumps

**WEIR MINERALS  
SERVICES™**

For further information on any of these products or our support services contact your nearest sales office or visit:

**[www.weirminerals.com](http://www.weirminerals.com)**



#### **Weir Minerals Division**

[www.weirminerals.com](http://www.weirminerals.com)  
[sales@weirminerals.com](mailto:sales@weirminerals.com)

Excellent  
Minerals  
Solutions

