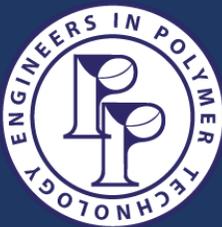




## **PPI – Dredger Hose Systems<sup>©</sup>**



**Polymer Products Impex Private Limited**

**“35 Years of Excellence”**

**Your Trusted Partner in Rubber based engineering solutions**

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## Our History

Polymer Products Impex (Private) Limited (“PPI”) was **established over 35 years ago** and is one of Sri Lanka’s leading manufacturing companies specializing in the design and manufacture of engineered rubber and bonded metal/rubber composite products for marine, construction, power, irrigation, transportation, household, automotive and general industrial markets.

PPI’s products are exported worldwide having **achieved the status of ‘Approved Supplier’ to several major global companies including 3M**. PPI partners with its clients to deliver customized rubber product solutions utilizing in-depth technical knowledge, specialised material formulations and the latest technologies. Manufacturing processes at PPI include moulding, extrusion, fabrication with post bonding, metal and fabric reinforcing and assembly.

**ISO 9001 certification** (international quality standard) is testimony to PPI’s commitment to offering the highest quality. The manufacturing facility’s environmental management is certified according to the international **environmental standard ISO 14001**. This commitment to international standards has allowed PPI to be appointed as an **exclusive supplier to the world’s largest innovations company in 3M**. One of the main products in this portfolio includes respiratory hoses used widely across a number of safety applications by 3M including in welding masks as outlined below.

The material development and manufacturing process was developed solely by PPI. The company has **passed 3M audits and earned the status as ‘Approved Supplier’ to 3M globally**. In addition to over two decades of export experience supplying products to the following countries, PPI also supplies highly technical rubber products to the mining and oil and gas industry in Australia.



Just as PPI is dedicated to providing innovative and technical rubber product solutions, the company is equally devoted to ensuring its products, employees and sites are following the commitment to socially responsible business activities. PPI fully embraces the policies and principles of the UN Global Compact which is a public-private strategic policy initiative for businesses committed to aligning operations and strategies with ten universally accepted principals in the area of human rights, labour, environment and anti-corruption.

## OUR CAPABILITIES

PPI's engineers and chemists work in partnership with its clients to produce cost effective rubber-based solutions. The company's extensive experience in tool design, 3D drawing and prototype capability can verify design and performance parameters before committing to full scale tooling and production of rubber products. Various elastomers such as NR, SBR, CR, CPE, CSM EPDM, EPM, IIR, FKM, NBR, NBR/PVC, Q, ACM and AEM are developed to achieve superior performance as well as conformance to international requirements such as Reach and FDA. PPI's products are designed to meet unique characteristics including requirements in conductivity, anti-static, flame retardant, odorant, food grade and resistance to different environmental conditions.

PPI observes and adheres to strict quality requirements during the production process by means of its Quality Assurance Systems, whilst the manufacturing processes are subject to continuous in-process inspections. ISO 9001 Certification is testimony to Polymer Products Impex (Pvt) Ltd commitment to offering the highest quality products.

The company also has a state of the art and complete testing laboratory to measure: tensile properties including rubber to metal bonding, hardness, creep, relaxation and compression set, thermal properties, rheological properties, rubber compound characteristics (dispersion and specific gravity) as well as yarn testing.

partners with its clients in to deliver customized rubber product solutions utilizing in-depth technical knowledge, specialized material formulations and the latest technologies. Some examples of the products PPI manufactures are provided below:



## PPI DREDGING SYSTEM

In today's competitive business environment and rising operating costs, the any industry cannot afford to have dredging facility or any other commercial facilities out of service because of damage caused by improper suction or discharge hose systems. For this reason, a good understanding of the latest in hose manufacturing technology could prove to be an industrial operator's competitive edge in attracting future business and retaining existing business. Trust PPI dredger hose systems to inform you of the latest hose technology and recommend the appropriate dredger hose system for your dredger unit. Our engineers can design the perfect system, then custom fabricate it for quick and easy installation. Or, for a unique application, we will custom design and manufacture a special hose solution. For years, our highly effective, reliable dredger hose solutions have been used in a large variety of military, marine, transportation, highway and bridge, and industrial applications around the world.



Unlike suppliers who use reclaim rubber and other lower cost compounds to make their products, PPI dredger hoses are manufactured using only highest-quality Natural rubber grades and superior synthetic rubber compounds with proven performance. Trust us there is a difference, and you don't want to find it in the hard way.

PPI Specialized dredger hoses' outstanding properties are unaffected by ozone, which can cause cracking in traditional rubber compounds such as natural rubber and butyl, particularly under stress. Our Rubber formulations have much greater resistance to sunlight and oxidation. When exposed to natural elements, PPI Compounds should outlast other rubber compounds by a substantial margin. It can perform up to 5x longer resulting in substantial savings on replacement costs. Unless your dredger hoses are made from PPI Specialized rubber, you're getting an inferior product.

## Benefits of using PPI dredger hose systems

- PPI Dredger hoses are virtually maintenance free
- Provides maximum protection against Dredger hoses damages to the dredging units
- Eliminates costly repairs to severe shocks/damages to Dredger units
- Constructed to last long and provide years of protection
- Performs on any Dredger unit in any type of weather condition



## PPI DREDGING SOLUTIONS

Since the inception PPI has specialized in the manufacture of a comprehensive range of high-quality dredger hoses relating to suction and discharge of water, slurries and other solutions, further PPI specializes in providing dredger hose accessories and components. Our engineering and manufacturing expertise deliver world-class rubber hose solutions that are built to withstand the harshest conditions. Our focus is on high performance, low maintenance products to ensure we deliver our clients solutions that improve plant/facility availability, reduce downtime and minimize maintenance expenditure. PPI has developed a diverse and market leading range of hose systems to suit all applications and provide efficient dredging service to our clients.

Our range of diverse rubber hose options for dredging and discharge options are designed to be applied on any environment. PPI can fabricate any hose product as per the standard sizes or for custom sizes as per the customer request.

PPI delivers world-class products manufactured to withstand the harshest conditions. Our high performing products are designed to minimize the costs associated with the major repairs of the dredging units without compromising performance.

PPI designs and manufactures a variety of hoses, expansion joints and pre-formed hose bends for the dredging and mining industry including slurry hoses, suction hoses, discharge hoses, muff hoses and delivery hoses.

All hoses are designed and manufactured to suit specified applications; our custom-built hoses take into account the following factors:

- Pressure
- Wear resistance
- Product temperature
- Chemicals resistance
- Ore or material being transported
- Exposure factors such as UV and Ozone
- Flange arrangement

To achieve the required working pressures, PPI dredging hoses are constructed of woven cord materials such as rayon, polyester or aramid fibers and steel reinforcing components in the form of spiral wire or rings and flanges. These hand-built hoses may also be ceramic lined.

PPI dredging hoses are available with inside diameters up to 1200mm and working pressure of 5 MPa.

PPI works closely with end users on hose audits and wear monitoring to ensure the most suitable hose is selected for the application and preventative / predictive maintenance systems developed. Additionally, wear indicators in our hoses are also available. These wear indicators alert operators when the mining hose wear material is worn to a pre-agreed percentage via a LCD or flashing light, negating the need for internal inspections or hose removals for inspection.

PPI Dredging hoses are supplied with integral or loose fitting flanges

## Elastomer Properties

PPI Rubber dredger hoses are manufactured from the highest quality Natural Rubber (NR) and optionally synthetic rubber compound-based compounds which meet or exceed the performance requirements of ASTM line call out - ASTM D2000 M4AA521A13B13EA14. Typical Performance of the PPI Impact protection polymer compounds are listed in the table below.

Property	Test Method	Specification
Original Properties:		
Color		Black (Default)
Hardness	ASTM D2240	50 ± 3
Tensile strength	ASTM D412	> 21 MPa
Elongation	ASTM D412	> 500%
Tensile strength after heat aging for 96 hr at 70°C	ASTM D573	After Aging Change in hardness Max. + 10 Change in ultimate Tensile Strength Max -25% Strength Change in ultimate elongation Max - 25%
Water absorption for 70 hrs at 100°C	ASTM D471	< 10% (by weight)
Compression set after 22hrs at 70°C	ASTM D395 Method B	< 25%
Tear resistance	Die B	> 40 kN/m
Working Pressure		1000 KPa
Safety Factor	ratio	4:1

\*\* If a report is required on the rubber specifications it could be provided under a special request.



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