



PPI - PULLEY LAGGING[®]



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 is provided below:



PPI PULLEY LAGGING



Pulley lagging is a critical component on every conveyor system. The selection of the correct lagging type provides protection against wear to capital items within your conveyor system such as pulleys and conveyor belt. The use of incorrect lagging or no lagging at all, will accentuate wear to the pulley shell or the return belt cover. Additionally, pulley lagging increases the drive capacity of a drive pulley within a conveyor system. The pattern within the lagging assists with the shedding of water and fines, minimising build-up on the pulleys, and reducing the risk of damage due to poor tracking.

Application

To combat risks associated with wear, slippage and build up on a pulley, it is industry standard to apply pulley lagging on all pulleys.



Mechanism

Whenever two components pass over each other, friction occurs and it is inevitable that wear will follow. Pulley lagging was developed to be the sacrificial item between capital components such as pulleys and conveyor belt. Its primary objective is to wear as it is more cost effective to replace the pulley lagging than it is to replace a pulley or conveyor belt.

Superior Characteristics of “PPI PULLEY LAGGING”

- Provides significantly high traction compared to traditional rubber lagging
- High operational reliability in wet, clayey and muddy operating conditions
- High resistance to wear (Service time up to 10 times longer than the normal rubber lagging)
- Dynamic resistance optimised by Finite element analysis to identify stress and stress points
- Unique rubber layer bonding system using either “Hot Bonding” or “Coal Bonding”
- High self cleaning effect due to the grooves between the surface patterns
- More flexible than the traditional rubber/ceramic lagging
- Protection of the belt through elastic elastomer base
- Durable adhesion as Hot bonding is carried out with optimised chemical agents and bonding systems

PPI PULLEY LAGGING Options

Since the inception PPI has specialized in the manufacture of a comprehensive range of high-quality conveyor accessories and polyurethane components. Our engineering and manufacturing expertise deliver world-class conveyor 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 availability, reduce downtime and minimize maintenance expenditure. PPI has developed a diverse and market leading range of pulley lagging to suit all applications and provide protection to your conveyor system.

Our range of diverse rubber lagging options are designed to be applied on any pulley. Strip lagging is either hot bonded or cold bonded as per the customer requirements.



PPI delivers world-class products manufactured to withstand the harshest conditions. Our high performing products are designed to minimise the costs associated with the total ownership of the plant without compromising performance.

Elastomer Properties

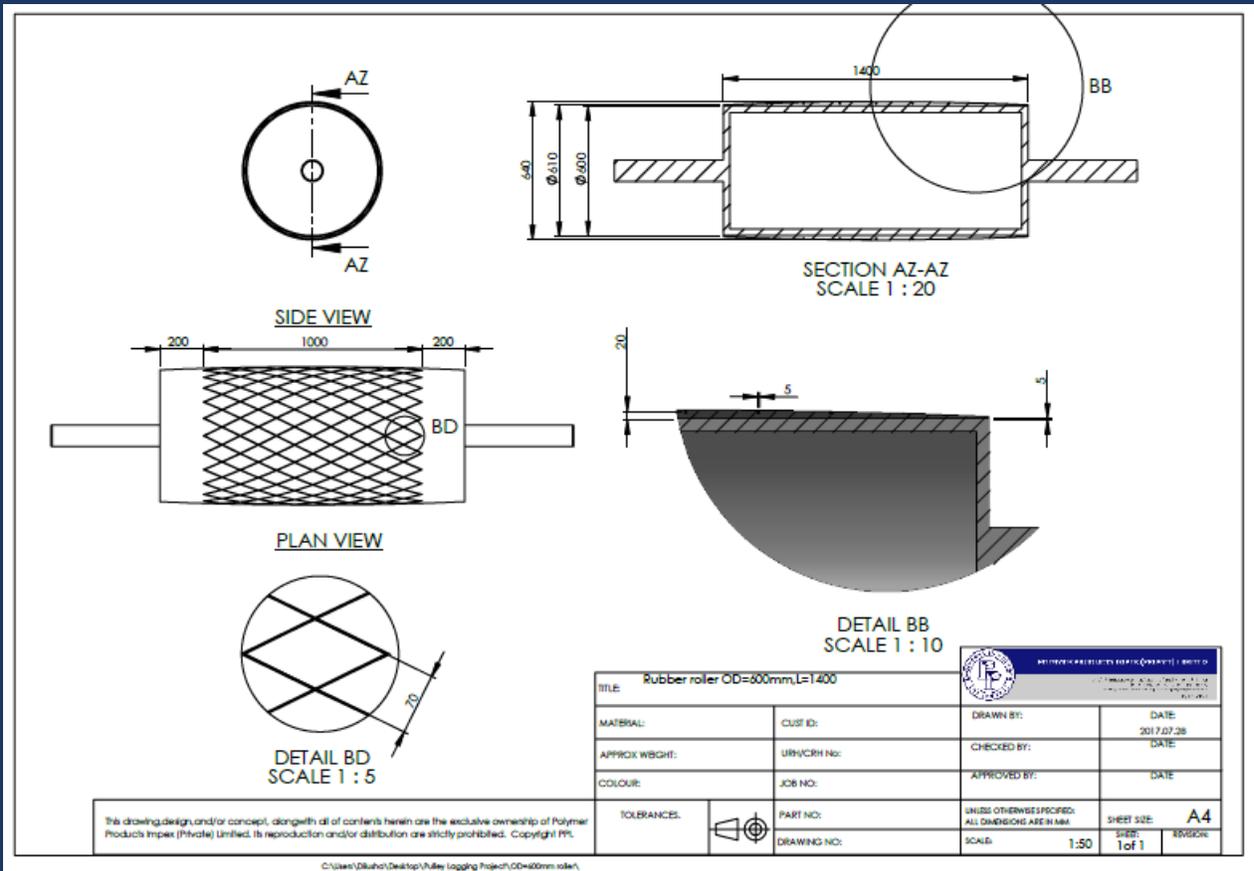
PPI Rubber fenders are manufactured from the highest quality Natural Rubber (NR) and optionally Styrene Butadiene Rubber (SBR) based compounds which meet or exceed the performance requirements of ASTM D2000 M3AA614Z1 (Z1= 65 +/- 5). Typical Performance of the PPI Pulley Lagging are listed in the table below.

Property	Test Method	Specification
Original Properties:		
Color		Black
Hardness (Shore A)	ASTM D 2240	65+/-5 Shore A
Density	ASTM D 297	1.31
Tear Resistance	ASTM D 624	Min kN/m ² 22
Flammability	AS 1334.10 Mine design guidelines (MDG 3608) 7.2.1.1	Flame Resistance (Ignitability and flame propagation characteristics)
Electrical Resistance (Surface)	AS 1334.9	Anti - Static
Tensile Strength (MPa)	ASTM D 412	Min 14 MPa
Elongation (%)	ASTM D 412	Min 400%

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

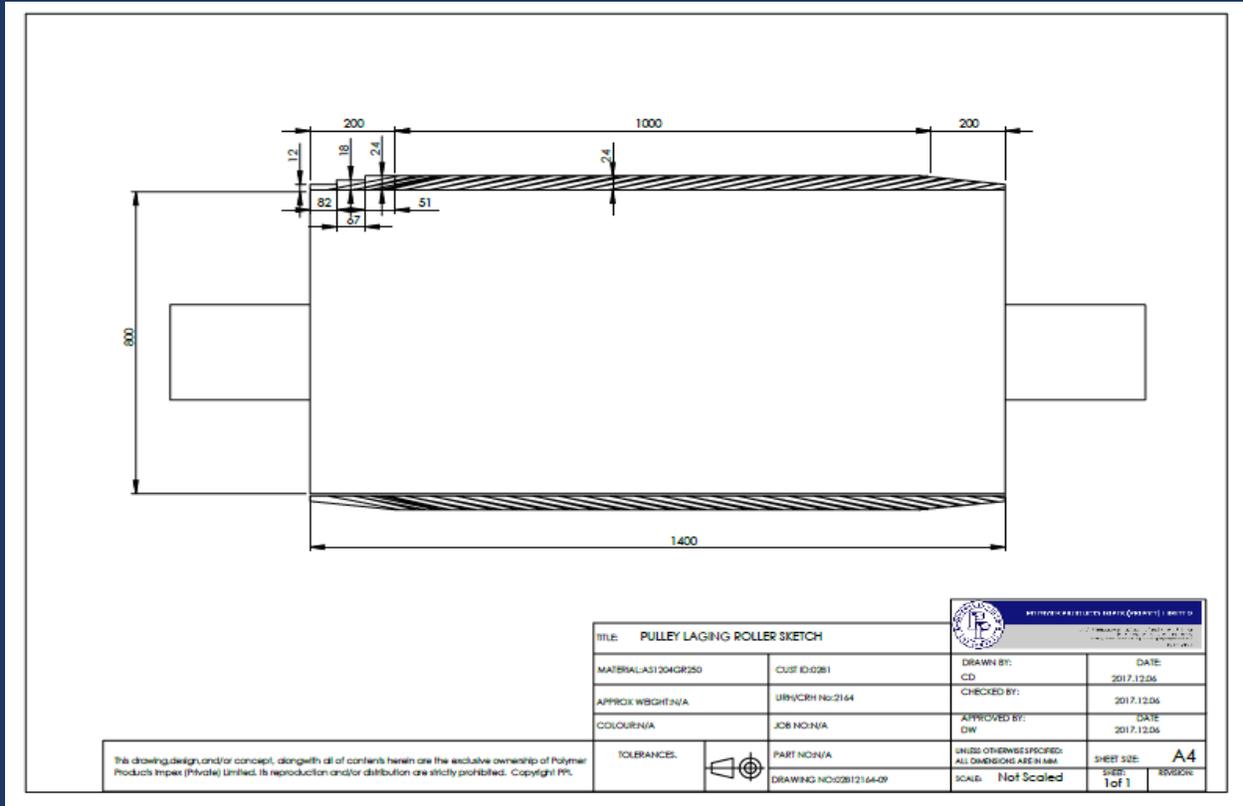
PP Experience

PP has the experience in the pulley lagging applications with the Lakvijaya Power plant where company has successfully fabricated 08 rollers under the Tender LV/T/2017/218 which was awarded to the company on 2017.09.26. Company was able to fabricate a innovative design under the guidance of the Lakvijaya engineering team where the pulley lagging was designed and fabricated to a crowned shape to improve the wearing and belt misalignment.



Three different types of Rollers were fabricated which included Tension Unit Roller - Zero Belt (600mm OD x 1400mm L), Tension Unit Roller - Zero Belt (800mm OD x 1400mm L) and Stacker - Reclaimer #1 (800 mm OD x1600mm L). Diamond cut surface was provided as per the clients' specification.

Crowned shape rubber layer was lagged with 20 mm rubber thickness in the middle of the steel core and 5 mm rubber thickness in the either ends with a tapered shape. Primary purpose of this pulley lagging was to ensure that pulley has a firm grip on the belt and belt misalignments are avoided.



Preparation of the Pulley Lagging for LV/T/2017/218



Company	Roller Type	Application	Timeline
Lakivijaya Power Plant	Tension Unit Roller - Zero Belt (600mm OD x 1400mm L) Tension Unit Roller - Zero Belt (800mm OD x 1400mm L) Stacker - Reclaimer #1 (800 mm OD x1600mm L)	FRAS (Fire resistant and anti-static) compound Anti-Slip, High abrasion, resistant to harsh environmental conditions Coal conveying line rollers	2018 January
Damro Group of Companies	Heavy duty wood board conveyor Rollers	Furniture part conveying roller	2015 to present
Quantum Clothing Lanka	Apparel bonding roller	High Heat Resistance	2017 from present
MAS Group of Companies	Bonding machine Roller	High Heat resistant fabric bonding	2018 from present
Piramal Glass	Silica conveyor line Rollers	High Abrasion heavy duty rollers	2014 from present
Sewanagala Sugar Corporation	Conveyor Belt Rollers	Heavy-duty Rollers for the cane conveyor line	2016 June
Lanka Ceramic PLC	Conveyor Belt Rollers	Heavy Duty Wet Clay conveying rollers	2018 Septembder
Plasti Pack Private Limited	Poly Pack machine Rollers	Chilled Core Rollers that can withstand Minus 50 Celsius Temperature	2017 July



Choose Wisely, choose “Polymer Products” for your Technical rubber-based Conveyor System Component requirements.

Why shouldn't you? Since we deliver beyond your expectations. That is a promise!

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