

# Petrorays PRODUCTS Co

126/128, Nagdevi street, 2nd Floor, Mumbai - 400 003. India

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## NYLON (POLYAMIDE) RODS, SHEETS & COMPONENTS

Nylon rods square & round profile are characterised by a combination of high strength, toughness & abrasion resistance. Other advantages are low weight, non-corrosive, low co-efficient of friction, true self-lubricating effect, vibration & noise damping etc. Parts fabricated out of nylon replaces metal parts such as Bush, Bearing, Slide plates, Gears, Gear Racks, Wear plates, Washers, Gaskets, Seals, Sleeper pads for rolling Mills, Liners, Wheels, Sleeves, Pulleys, Ropeway, Tyres, Rollers etc which are originally fabricated out of Phosphor bronze, Gum metal, Brass, White metal, steel & other expensive Metals.



**Extruded Nylon** - Grade is suitable for general purpose

**Nylon + MoS<sub>2</sub>**: Nylon with controlled quantity of MoS<sub>2</sub> (Molybdenum disulphide) to enhance sliding (Wear) & self lubrication properties, better out door performance achieved (UV radiation) in Black colour.

## ADVANTAGES OF NYLON COMPONENTS

✓ Excellent abrasion resistance	✓ Energy Savings
✓ High Impact strength	✓ Resistance to stress, cracking & UV rays
✓ Low Co-efficient of friction	✓ Has smooth & hard surface
✓ Water Repellant	✓ Excellent di-Electric Strength
✓ Lighter than metal	✓ Easily Machinable
✓ Corrosion Resistance to most acids & chemicals	✓ Does not require bearings seals

## WIDE APPLICATIONS

Railways:	Pedestal Liner, Bush, pinion, wear pad
Paper mills:	Dryers Gears, Liner, Bush, Pulleys, Rollers
Sugar Mills:	Mill bush, liner, Wear plates, pulley, wear pads
Cement Plants:	Ropeway pulley, Uncoupling wheel, bush
Textile Ind.:	Bevel Gears, Bearings, Bushes
Tyre Ind.:	Guides, Bush, Gear, Bead Separator
Steel Plants:	Slipper pads, Bearings, Gear, Insert
Chemical Plants:	Wear pads, Scrapper
Automobiles:	Wear pads, Rings, Brush, Washers
Bottling Plants:	Star wheel, Guides, Sprockets



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## PROPERTIES OF NYLON

PROPERTIES	CONDITION	TEST METHOD	UNIT	VALUES
Specific Gravity	Dry	ASTM D792	-	1.12.1.14
Water absorption 24 hrs.	Dry	ASTM D 570	%	3.5
Saturation	Dry	ASTM D 570	%	8.5 - 10.0

## MECHANICAL PROPERTIES

PROPERTIES	CONDITION	TEST METHOD	UNIT	VALUES
Tensile Strength	Dry	ASTM D638	Kg/cm <sup>2</sup>	800
Tensile Strength	Moist*	ASTM D638	Kg/cm <sup>2</sup>	500
Elongation at break	Dry	ASTM D638	%	30-100
Elongation at break	Moist*	ASTM D638	%	200-300
Modulus of elasticity	Dry	ASTM D638	Kg/cm <sup>2</sup>	23000
Modulus of elasticity	Moist*	ASTM D638	Kg/cm <sup>2</sup>	6000-13000
Flexural Strength	Dry	ASTM D	Kg/cm <sup>2</sup>	1100-1150
Notched Impact Strength Izod	-	ASTM D	Cm - Kg/cm <sup>2</sup>	3-6
Shore Hardness	Dry	DIN 5350	Scale D	65
Coefficient of friction (nylon / steel) No lubrication	-	-	-	0.3-0.4
Initial lubrication	-	-	-	0.05 - 0.1

## THERMAL PROPERTIES

PROPERTIES	CONDITION	TEST METHOD	UNIT	VALUES
Melting Point	Dry	ASTM D569	°C	210 - 216
Flammability	Dry	ASTM D635	-	Self. Ext.
Heat Distortion Temperature 66psi	Dry	ASTM D648	°C	145 - 160
Heat Distortion Temperature 265psi	Dry	ASTM D648	°C	65
Maximum service temperature (Continuous)	Dry	-	°C	90
Intermittent	Dry	-	°C	130
Coefficient of thermal expansion	Dry	ASTM D696	10 <sup>6</sup> / °C	100 - 120

## ELECTRICAL PROPERTIES

PROPERTIES	CONDITION	TEST METHOD	UNIT	VALUES
Dielectric Strength	Dry	ASTM D149	V/Mill	400