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science friction

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ID Material: 45
Rble: R. Antich
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NR

NR is friction material suitable for medium duty, wet and dry industrial applications.The material consists phenol resins. NR is fully cured and suitable for bonding and riveting. It success may be attributed to its hardness with gives it good wear and tensile strength while still achieving average and stable friction levels.NR is a material special for hydraulic applications because **this material doesn't contain metallic particles**.

Material data

Friction Properties (according graphics)

Static Friction Coefficient (15bar, from box):	0.48±0.05	µ
Static Friction Coefficient (15bar, 100ºC):	0.53±0.05	µ
Dynamic Friction Coefficient:	see charts	
Wear Rate:	see charts	
Tº Fading:	>350	°C

Physical properties

Hardness (DIN53505):	85±5	Shore-D
Specific Gravity (ASTM D792):	1.83±0.05	gr/cm3
Shear resistance (ISO 6312:2001):	22±2	N/mm^2

Mechanical properties

Tensile Strength (ASTM D638):	13±5	N/mm^2
Compressive Strength (ISO 844:2014):	150±5	N/mm^2
Shear Modulus (ASTM D2344-00):	1534±100	N/mm^2
Poisson Coefficient (ASTM D638):	0.27±0.03	
Young Modulus (ASTM D638):	3896±100	N/mm^2

Recommended Working Values

T° Max. Continuous Operation:	250	°C
T° Max. Intermittent Operation:	350	°C

Material type : Rigid material

Appearance / Formats

Applications

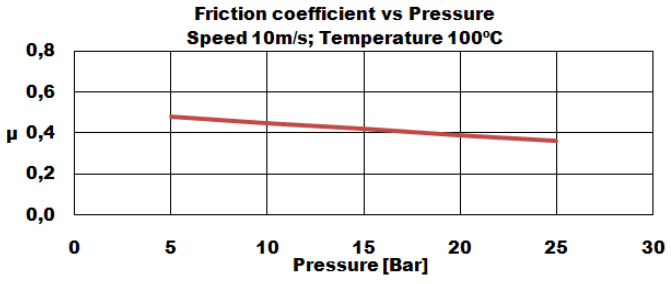
Callipers for industrial applications - Cones segments for machinery - Friction pads for hydroelectric applications - Friction washers - Gear discs for industrial devices - Rings segments for machinery

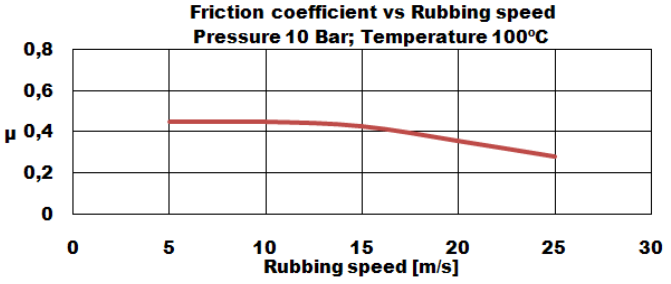
Price Level : € € €

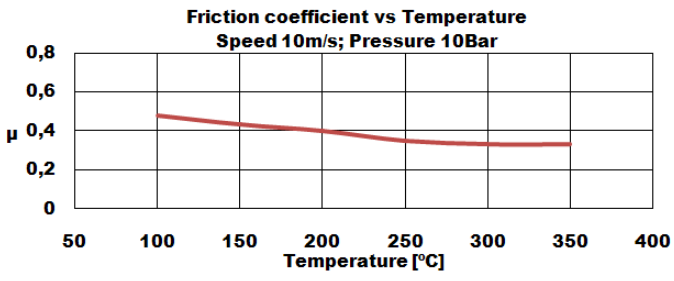
Reach (EC)1907/2023 - RoHS 2015/863/EU : Compliance

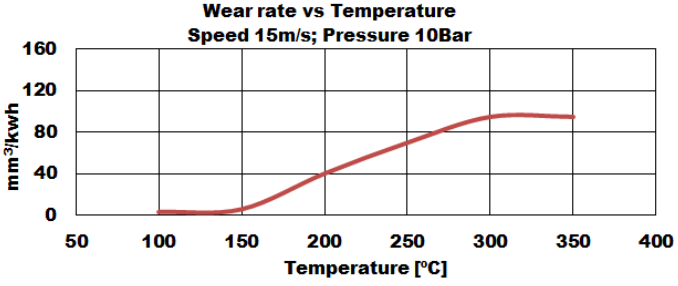
Others

Recommended Mating Surface:	Perlitic cast iron, hardness HB150-200
Recommended Adhesives:	Thermosetting adhesive
Oil Resistant:	Yes









Rubbing speed, temperature and pressure are related. Changing any values will change other. The values shown represent typical conditions, but are not ultimate limits of the material.