TENMAT ADVANCED MATERIALS

RAILKO CL47

General Purpose Bearing Material

RAILKO CL47 is a composite material made from woven fibre bonded with resin.

RAILKO CL47 has been developed as a general purpose wearing and bearing material for industrial applications.

RAILKO CL47 is used for specialized bearing pads in arduous applications such as railways and steel mills.

PROPERTIES	UNITS	CL47
Ultimate Compressive Strength	MPa	280
Normal Working Pressure	MPa	70
Hardness	Brinell	34
Coefficient of Friction		0.2 - 0.5
Water Swell	%	3
Density	g/cm^3	1.35
Coefficient of Thermal Expansion	$10^{-6}/^{o}C$	25
Maximum Continuous Operating Temperature	^{o}C	120

Technical Data Sheet

TENMAT ADVANCED MATERIALS

RAILKO JL31/JL33

General Purpose Bearing Material

TENMAT RAILKO JL31 and JL33 are composite materials made from woven fibre bonded with resin with a friction modifier.

RAILKO JL31 and JL33 are general purpose materials that give good wear life and low friction.

PROPERTY	UNITS	JL31/JL33
Coefficient of Friction	Dry	0.17 - 0.23
Compressive Strength	MPa	180
Normal Working Pressure	MPa	48
Compressive Yield	% @ 68.9 MPa	1.8
Impact Strength	kJ/m^2	10
Shear Strength	MPa	35
Hardness	Brinell	30
Swell in Water	% @ 20 °C	0.5
Density	g / cm^3	1.36
Coefficient of Thermal Expansion	10^{-6}/°C normal 10^{-6}/°C parallel	110 15
Maximum Continuous Operating Temperature	°C	130
Maximum Intermittent Operating Temperature	°C	150

Technical Data Sheet

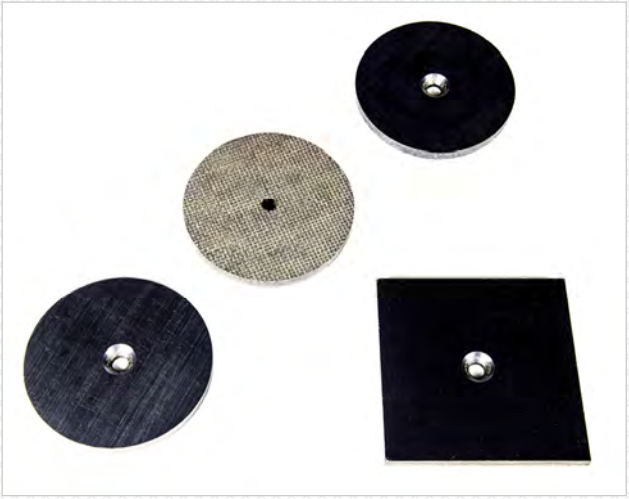
TENMAT ADVANCED MATERIALS

RAILKO JLX

General Purpose Bearing Material

RAILKO JLX grade has PTFE surface layer integrally moulded to a backing material. This gives a low friction working surface free from stick slip combined with good load bearing capability.

RAILKO JLX is used for air spring pads and slide pads, particularly in the Rail industry



PROPERTY	UNITS	JLX
Coefficient of Friction	Dry	0.04 - 0.07
Compressive Strength	MPa	180
Normal Working Pressure	MPa	45
Compressive Yield	% @ 68.9 MPa	2.2
Impact Strength	kJ/m^2	6
Shear Strength	MPa	35
Hardness	Brinell	28
Swell in Water	% @ 20 °C	1
Density	g / cm^3	1.46
Coefficient of Thermal Expansion	10^{-6}/°C normal 10^{-6}/°C parallel	370 15
Maximum Continuous Operating Temperature	°C	120
Maximum Intermittent Operating Temperature	°C	140

Technical Data Sheet

TENMAT ADVANCED MATERIALS

RAILKO NF21/NF22

High Performance Bearing Material

RAILKO NF21 and NF22 grades have a resin bonded composite structure with added friction modifiers to give a controlled friction.

RAILKO NF has been developed as a general purpose wearing and bearing material for many industrial applications offering low wear and friction rates.

RAILKO NF21 and NF22 are widely used in railway, pump and marine bearings, and industrial engineering applications.

RAILKO NF21 and NF22 are the same formulation. NF21 is for flat products, and NF22 is for cylindrical products.

PROPERTY	UNITS	NF21/NF22
Compressive Strength	MPa	192
Compressive Yield @ 68.9 MPa	%	2.4
Normal Working Pressure	MPa	55
Shear Strength	MPa	41
Impact Strength	kJ/m^2	32
Coefficient of Friction	Dry	0.36 - 0.4
Hardness	Brinell	23
Density	g / cm^3	1.64
Coefficient of Thermal Expansion	$x10^{-6}$/°C Normal $x10^{-6}$/°C Parallel	43 43
Maximum Continuous Operating Temperature	°C	120
Maximum Intermittent Operating Temperature	°C	140

Technical Data Sheet

RAILKO PV103

High Performance Slip Coats for Glass Run Channels

RAILKO PV103 slip coat is used and specified by major car manufacturers worldwide for glass run channel applications. This proven slip coat creates a low friction surface that is long-lasting, smooth and wear resistant.

Typical RAILKO PV103 is co-extruded onto bends of TPV, SEBS and EPDM to improve the long-term performance of weather seals.

RAILKO PV103 slip coat is chosen where durability and abrasion resistance are key requirements.

RAILKO PV103 is available worldwide through our global network of distributors.

RAILKO PV103 automotive slip coats are supplied as pellets in bags of 50lb/22.7kg.

Key Features:

- Low Coefficient of Friction
- Low Stick Slip
- Abrasion Resistant
- Stable to light and weather
- Resistant to cleaning fluids

Customer Benefits:

- Easy and smooth glass movement
- Long wear life
- No bleed out
- No marking on glass
- No colour fade

PROPERTY	UNITS	PV103
Hardness	Shore D	64
Density	g / cm^3	0.9
Flexural Modulus (ISO 178)	MPa	660
Coefficient of Friction[1]	μ	0.15 - 0.25
Extrusion Temperature[2]	^oC	210 - 230
Melt Flow (190^oC / 5kg / 10min)	g	0.9 min

1) The Coefficient of Friction is measured on the slip coat on the co-extruded Glass Run Channel. The measured value of the Coefficient of Friction is dependent on the test method and the shape of the Glass Run Channel.
2) The extrusion temperature conditions will depend on the extruder type and feed rate.

Technical Data Sheet

TENMAT ADVANCED MATERIALS

RAILKO RG1/RG11

RAILKO RG1/RG11 Bearing Material

TENMAT RAILKO RG1/RG11 have been especially developed for demanding bearing applications including pump bearings, wear rings and thrust washers. RAILKO RG1/RG11 is hard wearing and dimensionally stable.

RAILKO RG1/RG11 has strength, durability, dimensional stability, excellent wear characteristics and exceptional temperature resistance.

RG1/RG11 products are the same formulation. RG1 is for flat products and RG11 for cylindrical products.

PROPERTY	UNITS	RG1/RG11
Coefficient of Friction	Dry	0.28 - 0.32
Compressive Strength	MPa	330
Normal Working Pressure	MPa	82
Compressive Yield	% @ 68.9 MPa	1.8
Impact Strength	kJ/m^2	20
Shear Strength	MPa	80
Hardness	Brinell	28
Swell in Water	% @ 20 °C	0.4
Density	g / cm^3	1.28
Coefficient of Thermal Expansion	10^{-6}/°C normal 10^{-6}/°C parallel	60 30
Maximum Continuous Operating Temperature	°C	200
Maximum Intermittent Operating Temperature	°C	220

Technical Data Sheet

TENMAT ADVANCED MATERIALS

RAILKO RG2/RG12

RAILKO RG2/RG12 Bearing Material

TENMAT RAILKO RG2/RG12 have been especially developed for demanding bearing applications. RG2/RG12 are both hard wearing and dimensionally stable.

RG2/RG12 products are the same formulation. RG2 is for flat products and RG12 for cylindrical products.

PROPERTY	UNITS	RG2/RG12
Coefficient of Friction	Dry	0.25 - 0.3
Compressive Strength	MPa	250
Normal Working Pressure	MPa	62
Impact Strength	kJ/m^2	30
Shear Strength	MPa	64
Hardness	Brinell	30
Swell in Water	% @ 20 °C	0.25
Density	g / cm^3	1.38
Coefficient of Thermal Expansion	10^{-6}/°C normal 10^{-6}/°C parallel	25 15
Maximum Continuous Operating Temperature	°C	200
Maximum Intermittent Operating Temperature	°C	220

Technical Data Sheet

TENMAT ADVANCED MATERIALS

RAILKO RG15

Self Lubricating Bearing Material

TENMAT RAILKO RG15 has been developed for demanding bearing applications including pump bearings, wear rings and thrust washers.

RAILKO RG15 is hard wearing and dimensionally stable.

RAILKO RG15 has strength, durability, dimensional stability, excellent wear characteristics and exceptional temperature resistance.

PROPERTY	UNITS	RG15
Coefficient of Friction	Dry	0.28 - 0.32
Compressive Strength	MPa	330
Normal Working Pressure	MPa	82
Compressive Yield	% @ 68.9 MPa	1.8
Impact Strength	kJ/m^2	20
Shear Strength	MPa	80
Hardness	Brinell	28
Swell in Water	% @ 20 °C	0.4
Density	g / cm^3	1.28
Coefficient of Thermal Expansion	10^{-6}/°C normal 10^{-6}/°C parallel	60 30
Maximum Continuous Operating Temperature	°C	200
Maximum Intermittent Operating Temperature	°C	220

Technical Data Sheet

TENMAT ADVANCED MATERIALS

RAILKO RG22

Composite Marine Bearings

TENMAT RAILKO RG22 is a synthetic fibre reinforced material with added friction modifiers.

Fully approved as a rudder bearing material with all major marine classification societies, it contains special friction modifiers permitting its use in dry running applications.

RAILKO RG22 can be pressed into housings or freeze-fitted using liquid nitrogen.

Bearings can be produced for shafts up to 1000mm diameter and typically with 6 mm allowances on the diameter and 50mm on length to allow for machining at shipyards.

PROPERTY	UNITS	RG22
Coefficient of Friction	Dry	0.08 - 0.12
Compressive Strength	MPa	300
Normal Working Pressure	MPa	75
Compressive Yield	% @ 68.9 MPa	2.5
Impact Strength	kJ/m^2	33
Hardness	Brinell	23
Swell in Water	% @ 20 °C	0.15
Density	g / cm^3	1.3
Coefficient of Thermal Expansion	10^{-6}/°C normal 10^{-6}/°C parallel	110 40
Maximum Continuous Operating Temperature	°C	100
Maximum Intermittent Operating Temperature	°C	120

Technical Data Sheet

RAILKO

RAILKO Xtra Glide

High Performance Slip Coats for Glass Run Channels

RAILKO Xtra glide slip coat has been specifically developed for the automotive industry to provide a smooth and durable surface for Glass Run Channels.

RAILKO Xtra Glide slip coat is co-extruded onto TPV, SEBS, and EPDM profiles to create a low friction surface that is durable, smooth and wear resistant.

Glass Run Channels with RAILKO Xtra Glide slip coat can be bent during installations into the assembly frame without showing signs of scuff or mar.

RAILKO Xtra Glide is the ideal solution for thin, flexible cross sections and is available worldwide through our global network of distributors.

RAILKO Xtra Glide automotive slip coats are supplied as pellets in bags of 50lb/22.7kg.

Key Features:

- Low Coefficient of Friction
- Low Stick Slip
- Abrasion Resistant
- Stable to light and weather
- Resistant to cleaning fluids

Customer Benefits:

- Easy and smooth glass movement
- Long wear life
- No bleed out
- No marking on glass
- No colour fade
- No scuff or mar on installation

PROPERTY	UNITS	Xtra Glide
Hardness	Shore D	50
Density	g / cm^3	0.96
Tensile Strength	MPa	10
Flexural Modulus (ISO 178)	MPa	220
Coefficient of Friction[1]	μ	0.15 - 0.25
Extrusion Temperature[2]	°C	180-210
Melt Flow (190°C / 5kg / 10min)	g	0.9 min

1) The Coefficient of Friction is measured on the slip coat on the co-extruded Glass Run Channel. The measured value of the Coefficient of Friction is dependent on the test method and the shape of the Glass Run Channel.
2) The extrusion temperature conditions will depend on the extruder type and feed rate.

Technical Data Sheet