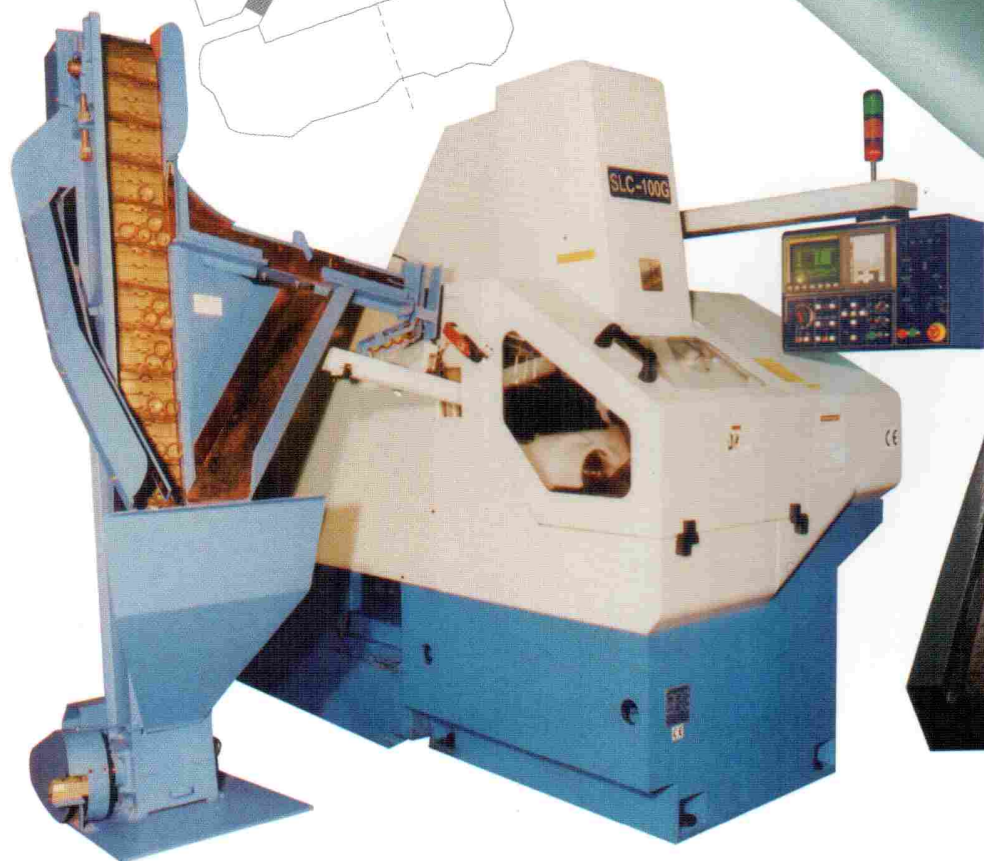




# Rollon Slideway

**Total linear solutions and beyond**

For machine tool guideways,  
machine tool manufacturers, rebuilders  
and engineering applications





Two decades ago, Rollon Bearings introduced Rollon Slideway material in the Indian market for the first time. To meet growing customer needs, modern manufacturing facility was established at Bangalore with the technical know-how of BUSAK + SHAMBAN, USA.

With uncompromising quality and reliable service, we have been able to earn the goodwill of a number of prestigious customers, all over the country.

**Due to our advanced manufacturing technology, technical capability and providing the world's best etched surface, Rollon is the recognized market leader.**

Our quest for technological innovation and customer delight has prompted us to widen our product range and grow with market needs. Our state of the art products now find use in every type of industry – from machine tool to marine, from fertilizer to process operation, from textiles to hydraulics.



world class manufacturing facility with advanced CNC machines

**“The guiding philosophy at Rollon Bearings is to provide solutions to customers’ problems, not mere products.”**

We share the mission of providing reliable and progressive technology to our customers. Bringing the very best in world in the each field we operate. In the process, we strive to harness the maximum creative potential of every member of our organisation.

**Rollon Slideway** system is a linear Bearing system used on machine tool transfer lines, or any linear movement application to check metal to metal contact, where reduced friction and wear resistance are critical design considerations. In addition to use by OEMs, Rollon Slideway ensures easy and reliable installation during rebuilding due to the following advantages.

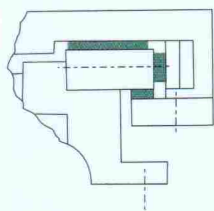
#### Advantages of Rollon Slideway over other metallic or non metallic linear bearing systems

- Low friction without stick slip, a requirement for positional accuracy at different Velocities specially at low speed.
- Excellent vibration damping characteristic in spite of low co-efficient of friction.
- High wear resistance, machine tools works more accurately for longer periods of time and service intervals are extended.
- High chemical resistance to coolants & lubricants.
- Excellent mechanical properties and dimensional stability.
- Advantage of embedding foreign particles.
- It can run dry without damaging the mating slide.
- High positional accuracy and repeatability.
- High performance over many years.
- No swelling of the bearing material.
- Low product cost.
- Simple and easy installation.



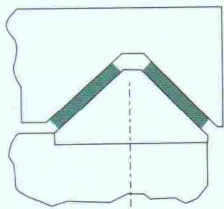
## Applications

### Combined Linear Guidance



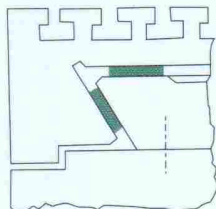
Non-enclosed  
Slideway  
linear bearing  
material

### Prism Guidance



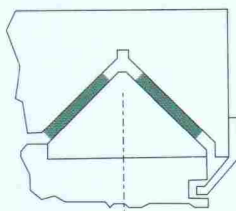
Semi-enclosed  
Slideway  
linear bearing  
material

### Dovetail Guidance



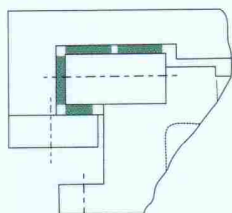
Enclosed  
Slideway  
linear bearing  
material

### Prism Guidance



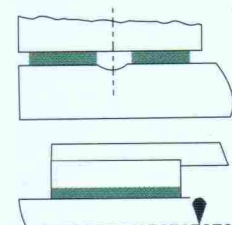
Enclosed  
Slideway  
linear bearing  
material

### Linear Guidance



Enclosed  
Slideway  
linear bearing  
material

### Bearing



Split non-enclosed  
Slideway  
linear bearing  
material

Non-enclosed  
Slideway  
linear bearing  
material



Tensile strength, wear and friction tests are some of the rigorous quality control measures adopted for every roll of slideway material skived

## Application Areas

Rollon Slideway is recommended as a bearing material in all areas where the working conditions are not exceeded. This applies to vertical, horizontal and rotational mountings.

## Availability

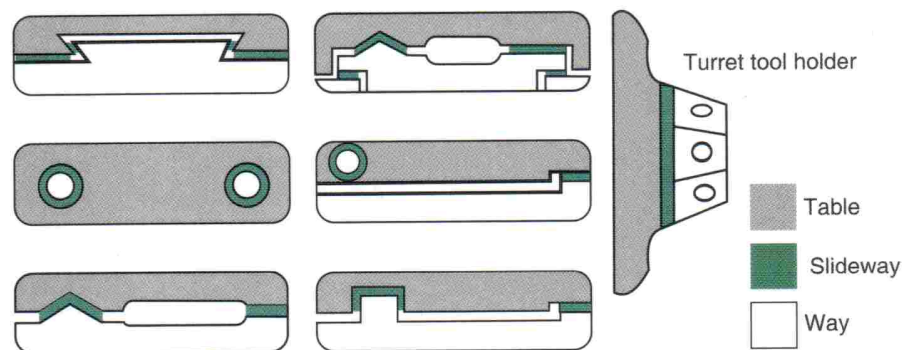
Rollon Slideway is available in standard thicknesses of 0.8mm, 1.2mm, 1.6mm, 2.0mm, 2.5mm, 3.2mm, 4mm with a standard width of 305 mm and length to your specific requirements. Custom thicknesses also available with minimum order quantity

## Installation Procedure

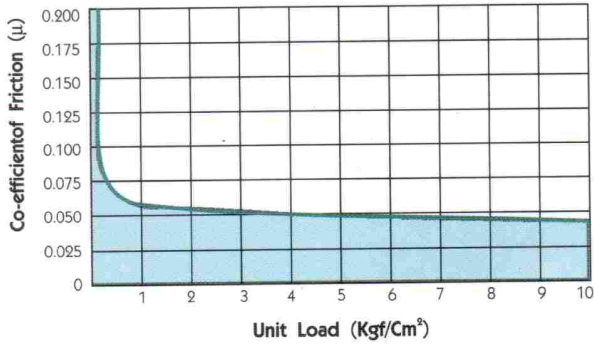
Rollon Slideway system is designed to operate as a complete system. Maximum Performance of this bearing system can be assured, only by utilizing the specific system components and recommended installation procedures. Rollon Slideway has been pre treated (etched) on one side, and after cleaning, the pre-treated (dark brown to black coloured) side is ready for bonding to a properly prepared metallic surface. The most important aspect in maximizing the strength of the bond, and the overall product performance of the Rollon Slideway System is the careful preparation of the metal surface to which the Slideway bearing material is to be bonded. To assist in the mounting of Rollon Slideway material, please write for a sequenced instruction sheet.

**“The Rollon Slideway linear Bearing System is an extremely reliable choice for machine tool sliding way and saddle surfaces. It offers important application benefits of **lower friction, minimal abrasive wear, and reduced stick slip.**”**

## Typical Design Configuration

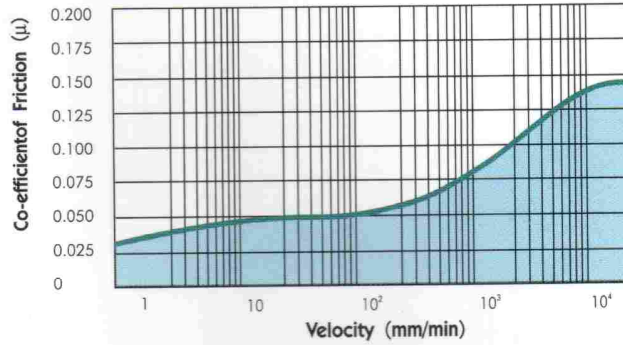


## Design Parameters and Technical data



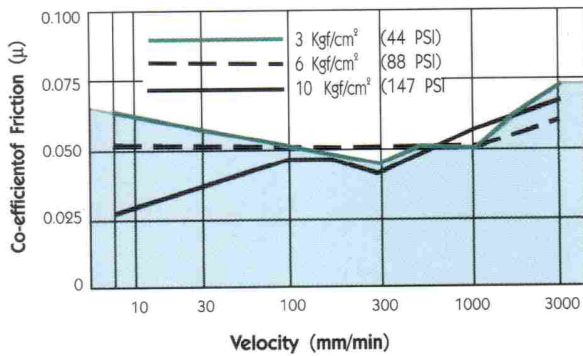
**Friction as Function of Unit Load**

Lubricated Friction: Velocity 2 m/min (6.6ft/min)  
Materials: Slideway (Scraped) and cast iron (scraped)



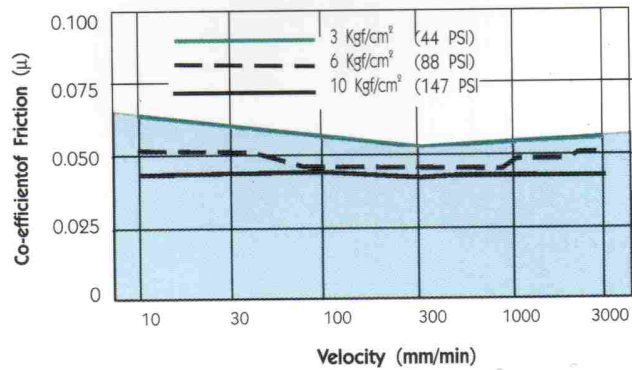
**Friction as Function of Velocity**

Dry Friction: Loading 3.5 kgf/cm² (50 PSI)  
Materials: Slideway (Fresh) and cast iron G.S 55, 264 HB (Ra=0.47) (19 CLA)



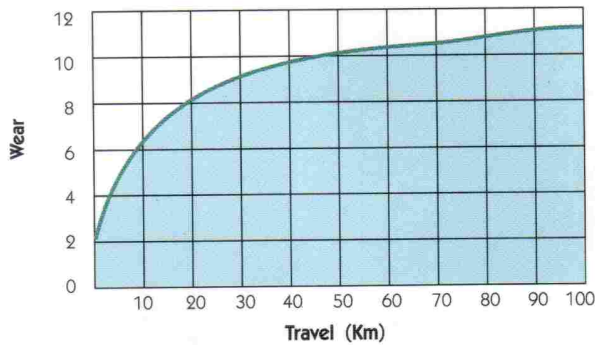
**Friction as Function of Velocity after 0 Km**

Travel: Lubricated with oil 50E  
Materials: Slideway (Scraped) and cast Iron G26, (Ra=0.8) (32 CLA)



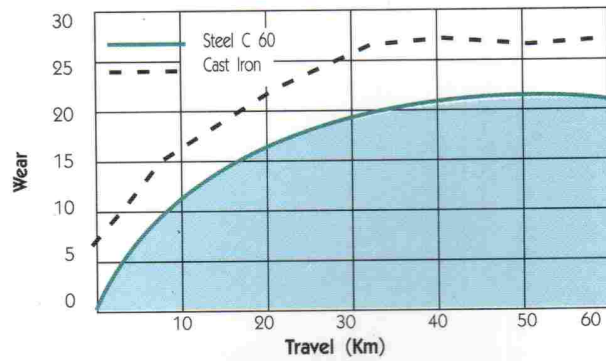
**Friction as Function of Velocity after 40 Km**

Travel: Lubricated with oil 50E  
Materials: Slideway (Scraped) and cast iron G26, (Ra=0.8) (32 CLA)



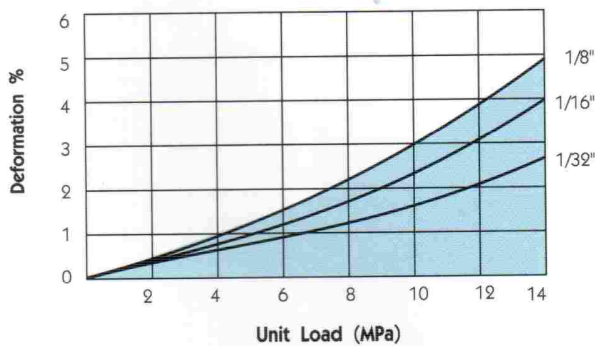
**Wear as Function of Travel**

Lubricated Friction: Loading 6 kgf/cm² (88 PSI)  
Materials: Slideway (Scraped) and cast iron G26, (Ra=0.8) (32 CLA)

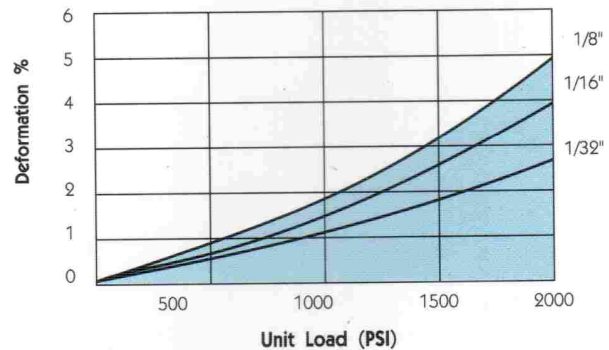


**Wear as Function of Travel**

Dry Friction: Loading 20 kgf/cm² (293 PSI)  
Materials: Slideway steel C 60 (Ra=0.8) and cast iron G 26 (Ra=0.8)



**Deformation under load (Mpa)**



**Deformation under load (PSI)**



## Specifications

Rollon Slideway has exceptional wear and abrasion resistance and exhibits low sliding friction. Rollon Slideway is treated, making it suitable for bonding to a metallic substratum. It is unaffected by nearly all chemicals, except strong acids or oxidizers. These properties make self lubricated Rollon Slideway exceptionally well suited for use as a linear bearing.

Property	ASTM Test Method	Units of Measure	Value	
			Metric	English
Tensile Strength to Break at 73°F	D 1457	MPa(Psi)	13.7	(2,000)
Elongation to Break at 73° F	D 1457	%	168	(168)
Specific Gravity at 73°F	D 792	-	3.1	(3.1)
Deformation under Load (73°F, 2000 PSI, 24 hrs.)	Refer to Deformation Graph on Page 4			
Flexural Strength	D790	MPa (PSI)	96.5 (14,000)	
Water Absorption	D 570	%	0	(0)
Coefficient of Linear Thermal Expansion	D 696	m / m / °C (in / in / °F)	10.8 x 10 <sup>-5</sup>	(6 x 10 <sup>-5</sup> )
Working Temperature Range		°C(°F)	-218 + 260	(-360 + 500)
Limiting PV		MPa-m/min (PSI-FPM)	53	(25,000)
Colour		Blue / Gray	Blue / Gray	

## Characteristics

Characteristics	Description / Units	Values
1. (a) Co-efficient of Friction Trace Lubrication	Static	0.073
(b) Flooded Lubrication	Dynamic	0.068
	Static	0.062
	Dynamic	0.059
2. Allowable Bearing Pressure	kgf/cm <sup>2</sup>	up to 115
3. Self-lubricity	Yes	
4. Min. Sliding Speed without Stick-slip	mm/min.	0.01
5. Vibration Damping Property	Yes	
6. Machinability of Material	Can be milled or ground or scraped	
7. Mating Surface Requirements	Hardness (BHN) Surface Roughness (mm)	180-220 (Ra < 0.6)
8. Availability of the Material	Thickness (mm)	0.8, 1.2, 1.6, 2.0, 2.5, 3.2, 4.0
9. Shelf Life		No Limit
10. Engineering Costs		Extremely Low

## Coefficient of Kinetic Boundary Friction ( $\mu$ ) determined for differing slideway materials

Interacting Materials	Dry	Straight Ref. Oil	Dynobear 32/68/685	Dynobear 68/7
Cast Iron Cast Iron	0.15 - 0.2	0.15	0.10	0.10
Rollon Slideway Cast Iron	0.05	0.05	0.03	0.03
PTFE (TEFLON) Cast Iron	0.09	0.09	0.08	0.06
Mild Steel. Cast Iron	0.40	0.35	0.12	0.1

Unit Bearing Load = 200 lbs per sq. inch [ 14 kgs. Per sq. cm] Rate of linear Travel = 6.7 inches per min [ 17.0 cms per min]