SOLTRI
SOLUTION OF COMPOSITE BEARING

KAMGLIDE
Wear Ring & Bush

Our solutions are geared towards the customer's needs.

With its long and extensive experience of working with composite materials, SOLTRI CORP. can guarantee quick, flexible and competitively priced solutions to customer's satisfactions.

SOLTRI CORPORATION(formerly KAHA COMPOSITE CORPORATION) was founded in August, 1988 with the intention of providing the industries with polymer- matrix bearing composites from a wide variety of resin systems.
Our expertise includes the engineering, development, manufacture and fabrication techniques required to maintain long life, low friction, non-metallic, environmentally friendly bearing composites for industrial uses. We are constantly evaluating and developing new resin system for new substrate types, and new manufacturing methods to maintain and develop our expertise.

We are prepared to get involved with you to make sure you are satisfied with the products and its performances. When you need any information related to our products for your task, we can help you determine which material will work best, based on the specific performance requirements of the part.

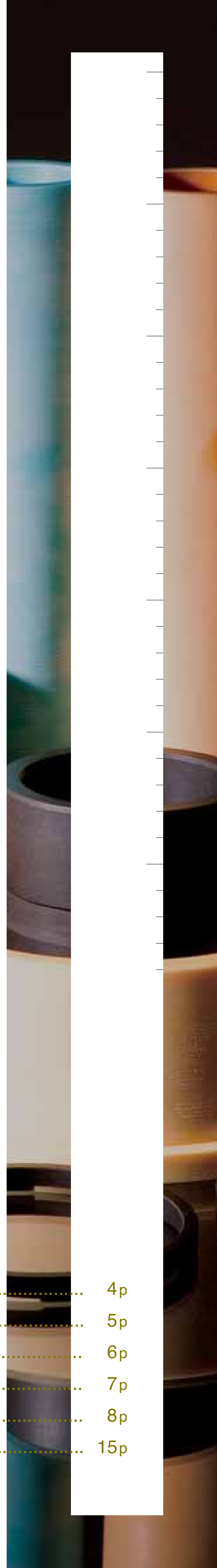
In addition, with our many years of experience, we can help when a design engineer has a need but no specific idea as to the part design or material type needed, or which material will meet a particular specifications.

We have 10 grades for KAMGLIDE bearing material and 4 grades for MOSTUF, composite bearings respectively. And they have been gaining customer's favor in terms of quality, price and delivery. It is current trends for various industrial machines to become high performance, high precision and low weight by the progress of plastic composites.

Today, SOLTRI CORP. continues to grow as a major provider of bearing composite materials as more designers, engineers and manufacturers discover the benefits of KAMGLIDE and MOSTUF bearing materials. SOLTRI CORP. serves the industries as a leading manufacturer of bearing composite materials.

KAMGLIDE

Wear Ring & Bush



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SOLTRI

What are KAMGLIDE Composite Material ?

KAMGLIDE bearing composites are made by impregnating reinforcing fibers with thermosetting resins to produce materials with properties or characteristics superior to those of the individual material.
Most of composites are formed of two phases ; Matrix and Reinforcement. The matrix is continuous phase material which is usually less stiff and weaker than the reinforcement. It is used to hold the reinforcement together and distribute the load among the reinforcements. Reinforcements in the form of fibers, fabric, whiskers, or particulates are embedded in the matrix to produce the composite. They are usually stronger and stiffer than the matrix and provide the primary load-carrying capability of the composite

Performance properties of KAMGLIDE bearing composites are achieved through the combination of special reinforcing materials, such as aramid, carbon, glass, cotton, or synthetic fibers saturated with thermosetting resins

KAMGLIDE bearing materials possess excellent wear resistance, high specific strength, good dimensional stability, durability, and long-term resistance to severe chemical environments. The additions of solid friction modifiers such as PTFE, MoS_2 and graphite enhance the wear properties and life of the materials, enabling them to be operated at higher speeds and loads.

KAMGLIDE Material Key Benefits

KAMGLIDE bearing materials are rigid polymer composites that have solid friction modifier capsulated within matrix, Normal wear at the bearing surface continually exposes new lubricated surfaces, so KAMGLIDE bearing materials are able to remain self- lubricating throughout its bearing life.
KAMGLIDE bearing materials have fueled growth of applications throughout all sectors of industry, providing many advantages over metallic bearings. There are currently many grades, each with its own particular chemical and physical properties designed to suit specific requirements.

The followings are just a few of the advantages they have to offer over traditional bearing materials :

Low coefficient of friction

KAMGLIDE materials show outstanding dynamic frictional properties.
This allows for higher combinations of loads and speeds.

High resistance to wear

KAMGLIDE materials provide good wear resistance, resulting in many times longer service life when compared with bronze. It is also less affected by poor lubrication and dirty conditions.

Excellent resilience

Excellent capability to absorb high shock loading and impact

Low or free maintenance

High load-carrying capacity

KAMGLIDE bearing materials have a greater load-carrying capacity than many other types in common uses.
This is largely due to their high compressive strength derived from the orientation and nature of the reinforcements.

Excellent abrasion resistance

KAMGLIDE materials can be used in environments where abrasive particles are present.

Accept misalignment

Good Chemical resistance

Noise and vibration suppressing characteristics

Reduced wear of mating surface

Light weight

Light weight (as much as 5 to 6 times lighter than steel) translates into less energy consumption and has a cascading effect which reduce weight wear, cost, etc. of other components in a system.

Good dimensional stability

Freedom from interface welding

Design flexibility

KAMGLIDE materials, unlike metals, can be tailored to give exacting performance characteristics

KAMGLIDE Material Application

Earth moving equipment

Front end loader arm bushes, pivot point bushes, idler wheel bushes in tracked vehicle, pile driving pads

Offshore & Marine

Stern tube bushes, rudder stock bearings, pulley block bushes, overhead crane bushes & guide pads, mooring, roller bushes, deck crane bushes & bearings

Hydraulics

Cylinder piston & rod wear rings, Clevis pin bearings

Agriculture

Harvester bushes, tractor king pin bushes

Heavy transport

Bogie / trunnion / pivot bushes and thrust washer, bushes for spring shackles

Steel/Aluminum manufacturing

Cart wheel bush, conveyor wear pads and slide plates, crust breaker cylinder bushing, conveyor roller and bearings

Automotive Industry

Conveyor bushes and bearings, degreasing line bushes and wear pad

Paper/Textiles Production

Stenter blades, doctor blades conveyor rollers and bearings, squeeze roll bushes and wear pad

Water/Sewage treatment

Pump bearing, weir bearings/wear rings/ seal rings/ sluice gate bearings for hydro power, effluent slinger thrust bearing

Other applications

- Material handling equipment
- Food processing
- Railway industry
- Chemical industry
- Mining

KAMGLIDE Material Overview

Grads	Material Structure	Operating Condition	Typical Usage
CN-10/CN-20	Fine weave cotton fabric- reinforced phenolic composites	Oil or grease lubricated, Low maintenance	Wear ring for hydraulic cylinder, Sliding bearing, Bushes, Thrust plates
CM-20	Woven aramid fabric-reinforced phenolic composite with graphite additions	Dry, Maintenance free	Iron and steel industry, Agricultural equipment, Wear ring, Pump bearing, Heavy transport
RS-20/RS-30	Synthetic fiber-reinforced polyester composites with friction modifier	Dry, Grease-lubricated, Water-lubricated Low maintenance	Marine, Petroleum and Chemical plant, Railway, Agriculture, Hydraulics, Water/sewage treatment
RS-40	Synthetic fiber-reinforced polyester composites with PTFE micro-powder additions	Dry, Water-lubricated Maintenance free	Wear ring, Material handling, Food processing, Automotive, Brewing/bottling
CS-10/CS-20	Synthetic fiber-reinforced phenolic composites	Oil, Grease, Water or Process fluid lubricated, Low maintenance	Process fluid lubricated bearings, Pump bearings, Pivot bearings, Material handling equipment
LS-30	Synthetic fiber-reinforced vinyl ester composites with MoS2 additions	Dry, Low maintenance	Textile industry, Paper industry, Material handling, Chemical plant.
LM-40	Aramid fiber-reinforced vinyl ester composites with PTFE micro-powder additions	Dry, Maintenance free	High temperature applications.

Wear Ring

KAMGLIDE Wear Ring

KAMGLIDE Wear Ring

ABOUT Wear Ring

The role of the wear ring is to guide the piston and the rod in a hydraulic cylinder as well as to support horizontal loads and prevent metal-to-metal contact of moving parts.

Characteristic of Wear Ring

- ☐ Low coefficient of friction
- ☐ High resistance to wear
- ☐ Absorbing heavy side load
- ☐ Vibration suppressing characteristics
- ☐ Design flexibility
- ☐ Various application area
- ☐ Easy installation
- ☐ High temperature resistance

Mechanical Properties

Properties		Units	Grades		
			CN10	RS40	CM20
Compressive Strength	Static	MPa	256	290	344
	Dynamic	MPa	54	80	80
Impact Strength	IZOD	J/m^2	16	66	50
Density		g/cm^3	1.31	1.21	1.40
Hardness	Rockwell	HRM	105	100	115
Material Swell in water [1)] (% wall thickness)		%	0.32	0.08	0.08
Maximum sliding speed		m/s	1.0	1.0	1.0
Temperature	Maximum	℃	130	120	200
	Minimum	℃	-40	-40	-40
Coefficient of linear thermal expansion	Normal to laminate	10^{-5}/℃	3~4	7 ~ 8	2~3
	Parallel to laminate	10^{-5}/℃	2~3	5 ~ 6	1~2

1) 24 hours immersion at 20℃ water(2.5mm wall thickness)

KAMGLIDE | Wear Ring

CN-10/CN-20

■ **Material Structure**
Fine weave cotton fabric-reinforced phenolic composites
- CN-10 : no friction modifier
- CN-20 : CN-10 with graphite additions

■ **Features**
- Good mechanical strength
- Good dimensional stability
- Good chemical resistance
- Readily machinable
- Standard materials of wear ring for hydraulic cylinder

■ **Colors :**
- CN-10 : Light tan
- CN-20 : Black

■ **Application :** Piston

■ **Availability :** O.D. : 20~400mm

CM-20

■ **Material Structure**
Woven aramid fabric-reinforced phenolic Composite with graphite additions
This material has excellent thermal stability and wear resistance

■ **Features**
- High wear resistance
- Suitable for high temperature applications
- Excellent impact resistance
- High load capacity
- Good chemical resistance

■ **Colors :** Grayish Black

■ **Application :** Piston

■ **Availability :** O.D. : 20~400mm

KAMGLIDE | Wear Ring

▣ Material Structure
Synthetic fiber-reinforced polyester composite with PTFE micro-powder additions

▣ Features
- Low frictional coefficient
- High load carrying capacity
- Good chemical resistance
- No electro-chemical corrosion in aqueous solution
- Non magnetic/ low water uptake
- No stick slip

▣ Type : Wear ring, Wear strip

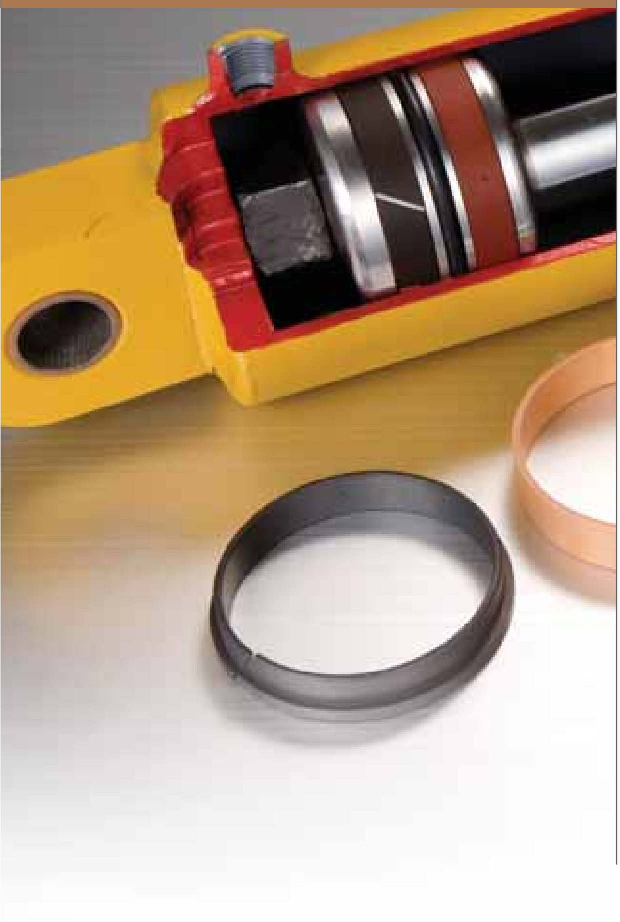
▣ Colors : Sky blue

▣ Application : Piston, Rod

▣ Availability :
- Wear ring : O.D. 20~400mm
- Wear Strip : Length 5000mm

RS-40

RS-40 Wear Strip



Design of Wear Ring

Calculation of the cutting gap for Wear Strip

The length of Wear strip would be calculated by following

[
▣ For Pistons
▣ L = (D - W) × 3.092
L : Max. wear ring length
D : Cylinder Diameter (OD of wear ring)
W : Thickness of wear ring
]

[
▣ For Rods
▣ L = (D + W) × 3.092
L : Max. wear ring length
D : Rod Diameter
W : Thickness of wear ring
]

※ Example

- OD : Ø300mm, ID : Ø295mm, Thickness : 2.5mm
  the circumference of a circle : 934.15mm
- L = (D + W) × 3.092 = 920mm

※ Strip Type : Cutting gap = 14mm

Standard cutting gap & type of cutting for Wear Ring

Bias cut is a standard cutting type. Step cut can be used as a buffer seal by protecting seals from pressure spike. The other type of cutting would be available as per customr request. Table 1. shows the Standard cutting gap and Figure 1 shows the type of cutting.

O.D. of Wear ring	Cutting(Z)
ØD≦25	1.0mm
26≦Ø≦100	2.0mm
ØD≧101	2.5mm

Table 1. - Standard cutting gap

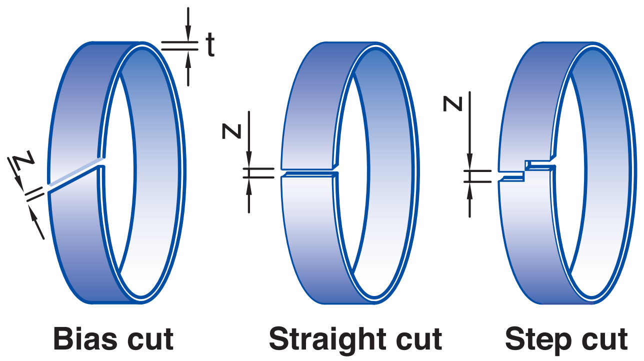


Fig. 1 - Type of cutting

Calculation of Wear Ring Width

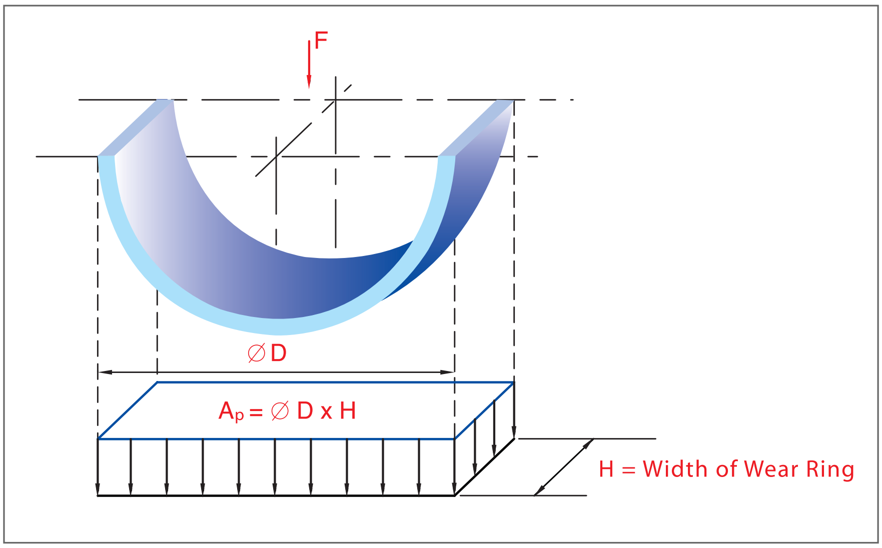


Fig. 2 - Total affected pressure area, A_P

When selecting a bearing width, it is important to evaluate the side loads that the bearings will have to endure. Fig. 1 shows the total pressure area, A_P, that a radial force from a side load will affect. Total pressure area(A_P) is calculated as follows :

$$\left[\quad A_P = \varnothing D \times H \quad \right]$$

D is the bearing O.D. for pistons (or the bearing I.D. for rods), H is bearing width.

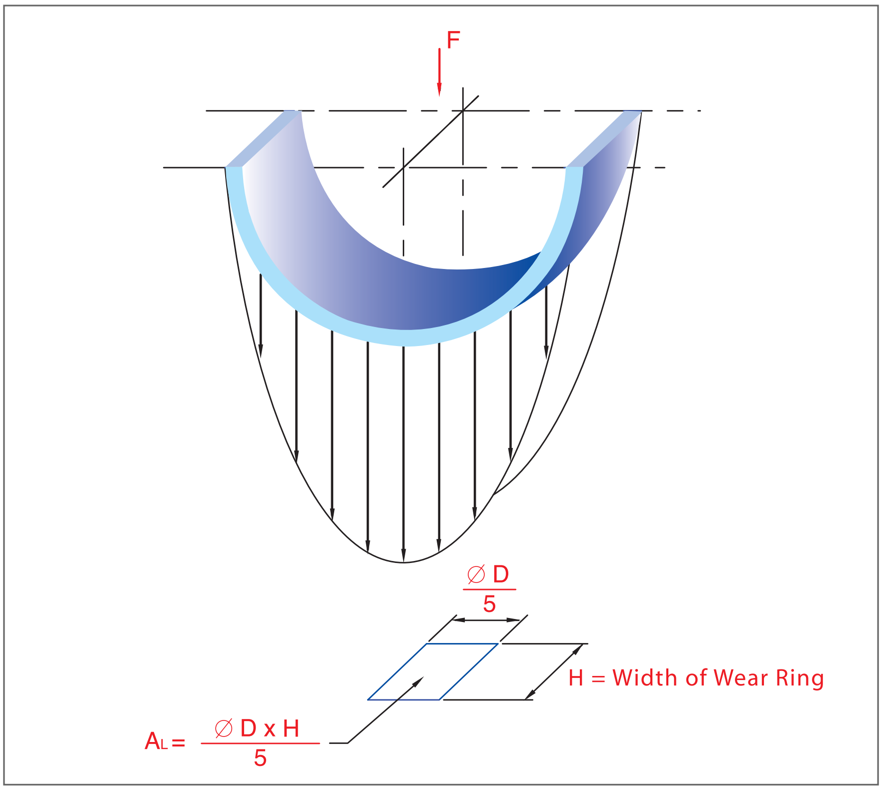


Fig. 3 - Load distribution of radial force, F and effective load area, A_L

It is important to note that the pressure distribution will not be equally dispersed across this area. Instead, the pressure profile takes the form shown in Figure 2. The assumed load bearing area, A_L, can be calculated as follows :

$$\left[\quad A_L = \frac{A_P}{5} = \frac{\varnothing D \times H}{5} \quad\right]$$

To calculate the allowable radial force, F, simply multiply the load-bearing area, A_L, by the permissible compressive load of the material, q, and device by the desired factor of safety, Fs.

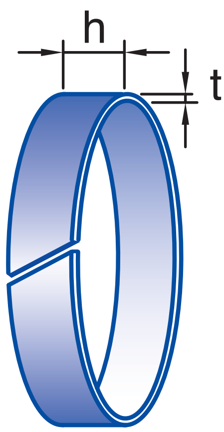
$$\left[\quad F = \frac{A_L \times q}{Fs} = \frac{\varnothing D \times H \times q}{5 \times Fs} \quad\right]$$

To calculate the proper bearing width, H, based on a known radial force :

$$\left[\quad H = \frac{5 \times F}{\varnothing D \times q} \times Fs \quad\right]$$

Standard of KAMGLADE Wear Ring

Table 2 shows the standard tolerances of thickness(t) & width(h) and chamfering (I.D. & O.D.) of KAMGLIDE Wear Ring.
The other specification would be available as per customer request.



		Standard Tolerance
Thickness(t)		0 ~ -0.08 mm
Width(h)		-0.10 ~ -0.20 mm
Chamfering	I.D.	C 0.6
	O.D.	C 0.3

Table 2 - Tolerance of Wear ring

Bush

KAMGLIDE Bush

KAMGLIDE Bush

Mechanical & Physical Properties

		Units	CN10	CN20	CM20	CS10	CS20
Ultimate compressive strength	Normal to laminate	MPa	270	250	340	290	270
	Parallel to laminate	MPa	190	160	230	190	170
Impact strength (charpy notched)		kJ/m^2	16	13	60	55	47
Hardness		HRM	105	97	115	100	95
Density		g/cm^3	1.31	1.35	1.40	1.33	1.35
Shear strength		MPa	71	55	100	75	60
Material swell in water (% wall thickness)		% at 20℃	2.0	2.0	1.0	0.4	0.4
Max. working compressive stress	Radial	MPa	54	45	80	65	60
	Axial	MPa	38	30	55	45	45

		Units	RS20	RS30	RS40	LS30	LM40
Ultimate compressive strength	Normal to laminate	MPa	330	330	330	350	370
	Parallel to laminate	MPa	100	100	100	100	105
Impact strength (charpy notched)		kJ/m^2	50	50	50	-	-
Hardness		HRM	98	98	98	105	105
Density		g/cm^3	1.24	1.24	1.21	1.21	1.25
Shear strength		MPa	80	80	80	80	90
Material swell in water (% wall thickness)		% at 20℃	0.1	0.1	0.1	0.1	0.1
Max. working compressive stress	Radial	MPa	75	75	75	75	80
	Axial	MPa	25	25	25	25	25

Thermal Properties

		Units	CN10	CN20	CM20	CS10	CS20
Max. working temperature	Continuous	℃	130	130	200	100	100
	Intermittent	℃	150	150	220	120	120
Coefficient of linear thermal expansion	Normal to laminate	10^{-5}/℃	4	4	3	5	5
	Parallel to laminate	10^{-5}/℃	3	3	2	4	4

		Units	RS20	RS30	RS40	LS30	LM40
Max. working temperature	Continuous	℃	120	120	120	140	200
	Intermittent	℃	140	140	140	160	220
Coefficient of linear thermal expansion	Normal to laminate	10^{-5}/℃	7	7	7	7	4
	Parallel to laminate	10^{-5}/℃	6	6	6	6	3

The values above are intended to act as a guide only to the primary selection of materials and should not be used for specifications.
Tests above conducted generally on "sheet material" in accordance with ASTM and JIS methods.
Ultimate compressive strengths of KAMGLIDE tube materials are typically lower than sheet materials.

CN-10	CM-20	RS-40	LS-30	LM-40
240	340	297	310	320

The natural color of grade CN-10 will vary from a light tan to a light brown or reddish brown.

CN-10/CN-20 Bearing Material

▣ Material Structure
Fine weave cotton fabric-reinforced phenolic composites
- CN-10 : no friction modifier
- CN-20 : CN-10 with graphite additions

▣ Features
- Good mechanical strength
- Good dimensional stability
- Good chemical resistance
- Readily machinable
- Standard materials of wear rings for hydraulic cylinder

▣ Operating Conditions
Oil or grease lubricated, low maintenance

▣ Availability
Tubes, cylinderical bushes, flange bushes, machined parts

▣ Typical Usage
Wear ring for hydraulic cylinder, sliding bearing, bushes, thrust plates

CM-20 Bearing Material

▣ Material Structure
Woven aramid fabric-reinforced phenolic composite with graphite additions
This material has excellent thermal stability and wear resistance

▣ Features
- High wear resistance
- Suitable for high temperature applications
- Excellent impact resistance
- High load capacity
- Good chemical resistance

▣ Operating Conditions
Dry, maintenance-free

▣ Availability
Tubes, cylinderical bushes, plates, machined parts

▣ Typical Usage
Iron and steel industry, agricultural equipment, wear rings, pump bearing, heavy transport

KAMGLIDE | Bush

■ **Material Structure**
Synthetic fiber-reinforced polyester composites with friction modifier
- RS-20 : graphite additions
- RS-30 : MoS2 additions

■ **Features**
- High wear resistance
- Near zero moisture absorption
- Impact and shock resistant
- Self-lubricating
- High load capacity

■ **Operating Conditions**
Dry, grease lubricated, water-lubricated, low maintenance

■ **Availability**
Tubes, cylinderical bushes, flange bushes, plates, machined parts

■ **Typical Usage**
Marine, petroleum and chemical plant, railway, agriculture, hydraulics, water/sewage treatment

RS-20/RS-30 Bearing Material

RS-40 Bearing Material

■ **Material Structure**
Synthetic fiber-reinforced polyester composite with PTFE micro-powder additions

■ **Features**
- Low frictional coefficient
- High load carrying capacity
- Good chemical resistance
- No electro-chemical corrosion in aqueous solution
- Non magnetic/ low water uptake
- No stick slip

■ **Operating Conditions**
Dry, water lubricated, maintenance-free

■ **Availability**
Tubes, plates, cylinderical bushes, flange bushes, machined parts

■ **Typical Usage**
Wear rings, material handling, food processing, automotive, brewing/bottling

CS-10/CS-20 Bearing Material

▣ Material Structure

Synthetic fiber-reinforced phenolic composites
- CS-10 : no friction modifier
- CS-20 : CS-10 with graphite additions

No electro chemical corrosion in aqueous solutions (CS-10)

▣ Features

- High load-carrying capacity
- Good underwater performance
- Good impact strength and chemical resistance
- Suitable for abrasive contaminated fluids(CS-10)
- Non-magnetic

▣ Operating Conditions

Oil, grease, water or process fluid lubricated, low maintenance

▣ Availability

Tubes, cylinderical bushes, flange bushes, plates, machined parts

▣ Typical Usage

Process fluid lubricated bearings, pump bearings, pivot bearings, material handling equipment

LS-30 Bearing Material

▣ Material Structure

Synthetic fiber-reinforced vinyl ester composite with MoS2 additions

▣ Features

- Good thermal properties than RS grade
- High wear resistance
- Self-lubricating
- Good dry running performance

▣ Operating Conditions

Dry, low maintenance

▣ Availability

Tubes, plates, cylinderical bushes, flange bushes, machined parts

▣ Typical Usage

Textile industry, paper industry, material handling, chemical plant

KAMGLIDE Bush

■ Material Structure
Aramid fiber-reinforced vinyl ester composite PTFE micro-powder additions

■ Features
- Excellent high temperature properties
- Good wear resistance
- Good damping characteristics
- Standard color is milky white

■ Operating Conditions
Dry, maintenance-free

■ Availability
Tubes, plates, cylinderical bushes, flange bushes, machined parts

■ Typical Usage
High temperature applications

LM-40 Bearing Material

KAMGLIDE Bearing Operating Limits

		Units	CN10	CN20	CM20	CS10	CS20
Maximum Temperature		℃	+130	+130	+200	+100	+100
Minimum Temperature		℃	-40	-40	-40	-40	-40
Maximum Sliding Speed		m/s	2.2	2.5	2.5	2.2	2.5
Maximum Load	Static	MPa	270	250	340	290	270
	Dynamic	MPa	54	45	80	65	60
Maximum PV Factor	Dry	MPa×m/s	0.20	0.25	1.5	0.15	0.22
	Oil Lubricated	MPa×m/s	0.38	0.50	2.0	0.30	0.45
	Regular Greased	MPa×m/s	0.60	0.75	2.5	0.45	0.65
Frictional Coefficient	Dry	-	0.13~0.17	0.11~0.15	0.12~0.16	0.12~0.15	0.10~0.13

		Units	RS20	RS30	RS40	LS30	LM40
Maximum Temperature		℃	+120	+120	+120	+150	+200
Minimum Temperature		℃	-40	-40	-40	-40	-40
Maximum Sliding Speed		m/s	2.0	2.2	2.5	2.2	2.5
Maximum Load	Static	MPa	330	330	330	350	370
	Dynamic	MPa	80	80	80	80	80
Maximum PV Factor	Dry	MPa×m/s	0.20	0.23	0.25	0.35	1.2
	Oil Lubricated	MPa×m/s	0.35	0.40	0.50	0.60	1.8
	Regular Greased	MPa×m/s	0.60	0.60	0.70	0.90	2.3
Frictional Coefficient	Dry	-	0.10~0.14	0.08~0.13	0.05~0.10	0.08~0.13	0.08~0.14

Design & Installation

Running Clearance

Plastic-based materials have comparatively high coefficents of thermal expansion and as a consequence bearing clearance tends to decrease with rising temperature.
Moisture absorption is a characteristic of polymer-based material which must be considered when deciding running clearance, as the bore of the bush will close slightly due to swelling of the material.

PV Limits

In addition to the individual consideration of load capacity, P, and speed of operation, V, the product PV is an important performance parameter for bearing design when boundary lubrication occurs. The PV value is a measure of the ability of the bearing material to accommodate the frictional energy generated in the bearing. At the limiting PV value, the bearing will not achieve a stable temperature limit, and wear increase rapidly as a consequence of thermal effects or of stresses approaching the elastic limit.
Frictional heating can be reduced by material configurations or liquid lubrications. Many KAMGLIDE bearing materials are offered with internal dry lubrication such as graphite, MoS_2, PTFE, or oil impregnation. Bearing performance can also be enhanced with regular lubrication in the form of oil or grease to reduce friction and remove heat from the bearing interface.

Wall Thickness and Bore Closure

Due to the resilience of KAMGLIDE Bearing materials, an allowance must be made for bore contraction which occur when a bush is pressed into its housing and is dependent on the ratio of bore diameter to wall thickness. A bearing employing the optimum wall thickness for KAMGLIDE Bearing materials, 2.5 +0.05d, will experience a contraction in the bore directly proportional to the degree of interference on the outside diameter.

Environment Suitability

Selection of appropriate materials for a bearing application is to eliminate those that are unsuitable for the environmental conditions.
Polymer and their composites are particularly resistant to attack by many chemicals, and can therefore be used in many applications where chemical media are present. The majority of polymer materials can be used in inert gas or vacuum environments, the important exception is those composite that contain graphite. These should not be used in vacuum or in very dry gases because, in order to act as a lubricant, graphite requirers the presence of a condensible fluid such as water vapor. The environmental suitability of the KAMGLIDE materials are summarized briefly in the below table ;

Water	Oils	Acids	
		strong	weak
A	B	E	B
Radiation	Vacuum	Alkalis	
		strong	weak
C	B-E	E	B

The grades in the table give an approximate indication of the proportion of suitable materials. “A” indicates that the majority of materials in this group will be suitable while “E” indicates that few, if any, will be unsuitable.

Design & Installation

Fitting

The normal method of retaining a bush in its housing by an interference fit is only satisfactory for applications where operating temperature changes are modest. the level of interference required depends upon the type of material used.
For applications involving large temperature changes, some positive method of location, such as a suitable adhesive or mechanical device, is essential.

Bearing Pressure

The initial step in the selection and sizing of a bearing involves determination of the operating bearing pressure. Bearing pressure is defined as the load devided by the projected area :

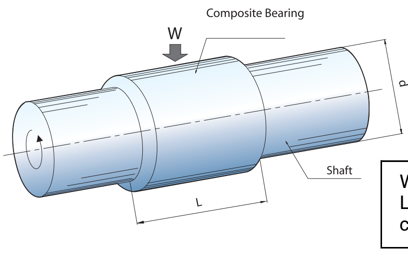
$$P = \frac{W \times L}{d}$$

where : P = Bearing pressure, MPa   W = Load, N
d = Shaft diameter, mm   L = Bearing length, mm

This gives the average pressure, MPa, that the bearing supports. Elevated temperature reduces load capacity ; lower temperature generally increases static load capacity.

Bearing Speed

Bearing speed is determined as follows :



Bearing Speed
Rotation, $V(m/s)=5.24\times10^{-5}dN$
Oscillation, $V(m/s)=5.82\times10^{-7}dc\beta$

W = radial load(N)	d = bearing ID(mm),
L = bearing length(mm)	N = rotation speed(revs/min),
c = cycling rate(cycles/min)	ß = half turning angle(degree)

Bearing Proportions

Optimum performance can be achieved by specifying a length to inside diameter ratio (L/d) ranging from 0.5 to 2.0. Values of L/d less than 1.0 result in easier escape for wear debris and less sensitivity to shaft deflection and misalignment. There may also be some cost advantage in using a bearing with a small L/d ratio.
If the L/d is higher than 2.0, distortions or misalignment may cause stress concentrations and excessive localized heating. Where long bearing has been indicated, it is advisable to consider using two bearings with a small gap between them or to increase the inside diameter, d, and re-estimate the bearing geometry.

Mating Metal Surface

A material that is hard compared with the bearing material is chosen to ensure that the bearing wears in preference to the mating material. For KAMGLIDE Bearing materials, stainless steel and hard chromium plated steel are often satisfactory.
The counter face finish can substantially affect the wear of the bearing bedding-in and during running. Values of 0.2~0.4㎛Ra with an upper limit of 0.8㎛Ra are usually specified for the surface roughness.
However reductions down to 0.05㎛Ra will almost always further reduce wear rate. For the same roughness the type of surface finish also affects wear rate. In general a ground surface is preferable to a turned surface but in either case a fine polishing operation is often beneficial. The finishing operation should preferably be in the same direction as the bearing motion relative to the mating surface.

All information in this catalog is based on years of experience
in the manufacture and application of bearing composites.
However, unknown factors in the application of bearing can considerably change the conditions
which may cause the information to be invalid

The users shall be fully responsible for determining
the suitability of Kamglide bearing materials for the intended use.

Our materials are subject to continual development and SOLTRI CORP. reserves
the right to make changes in the specification and design of its products without prior notice

SOLTRI

SOLTRI CORP.

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