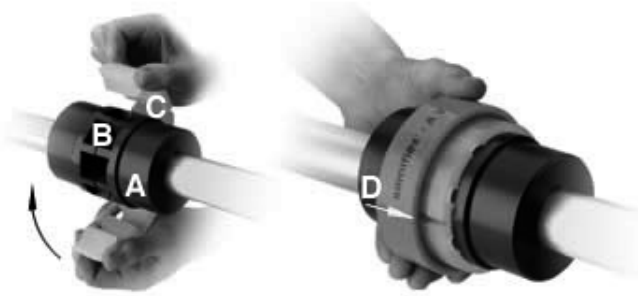


COUPLINGS

Elastomeric Couplings

Assembly and Features

Now there's a new solution to one of the most costly and troublesome problems facing maintenance personnel - coupling failure and the expensive down time associated with fixing it.



Only Four Parts to the Elastomeric Coupling

The two identical hubs (items A & B) are manufactured in cast iron, cast steel or aluminium alloy and incorporate four, six or eight teeth, depending on size rating of the coupling.

A precision cast and machined polyurethane insert (item C) fits between the hubs and is split axially so fitting and removal can be achieved without moving hubs.

The holding ring, manufactured in steel, polyamide or bronze (item D) is fitted over the insert securing both insert and ring between hubs. The coupling requires no bolts or nuts.

Assembly & Disassembly

Once hubs (A) and (B) and holding ring (D) have been installed and aligned on the shafts the coupling hubs will not have to be moved again during the life of the equipment.

The elastic insert (C) can then be installed between the parallel slots formed by the hub teeth.

With the insert in position, slide the retaining ring (D) into position over the polyurethane insert.

Centrifugal force will expand the insert under operation ensuring a tight, secure fit inside the retaining ring.

Removing and replacing the coupling insert is very simple and requires no special tools.

By removing the retaining ring, the insert can be quickly and easily removed and replaced without the need to undo screws, bolts or other fasteners

Features and Benefits

Coupling insert removable without the need to remove either driving or driven equipment.

Change out of coupling insert is faster than any other coupling.

No lubrication or maintenance required over the life of the insert.

The polyurethane insert can be supplied in a variety of hardnesses to optimise torque capacity and damping.

Polyurethane insert is very resistant to chemical attack.

Standard insert can handle large temperature range from -40 to 80 °C.

High temperature insert available up to 150 °C.

Hubs can be rotated independently during motor test.

No metal to metal contact.

Large bore to torque capacity.

Vertical operation possible with standard coupling.

Retaining rings provided with locking screws as standard.

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COUPLINGS

Elastic Insert Selection and Service factors

The Samiflex elastic insert is manufactured from a special blend of polyurethane compound manufactured to best meet the demanding characteristics of a high performance elastic coupling. Samiflex elastic inserts are offered in three styles of compound and five hardness ratings allowing the most appropriate insert to be selected for the application.

The standard elastic insert is supplied at 95 shore and is a yellow colour. High performance inserts type HD and HDT are coloured ochre and red respectively and enable Samiflex torque ratings to be increased by 40% (contact Technical for details).

Insert	Ref.	Hardness	Colour	Temp. Rating	
Standard	STD	80 Shore A	Clear	-40 / 80°C	
		90 Shore A	Blue		
		95 Shore A	Yellow		
High Temp.	HT	95 Shore A	Orange	-40 / 140°C	
High Performance	HD	97 Shore A	Ochre	-40 / 80°C	
		HDT	97 Shore A	Red	-40 / 140°C
		HR	65 Shore D	Green	-40 / 140°C



Coupling Selection

Method

Data required for Coupling Selection.

- Application details (for service factor)
- Kilowatt and rpm of the driver
- Shaft details of the driving and driven equipment

(1) Determine the service factor (SF) from the application and classification lists noted below.

(2) Calculate the maximum Kw/1000 rpm rating:
 $Kw/1000\text{ rpm} = (Kw \times 1000 \times SF) / \text{rpm}$
 Select the coupling which has a higher max rating.

(3) Compare the maximum rpm capacity & bore requirements to the catalogue limits for the coupling selected.

Example

Driver: Water Turbine (75 Kw at 1500 rpm)

Driven equipment: Screw Compressor

Turbine Bore: 60 mm **Compressor Bore:** 50 mm

Distance Between Shaft Ends: 140 mm

Service Factor for the Water Turbine & Screw Compressor:
SF=2

$Kw/1000\text{ rpm} = (75\text{ Kw} \times 1000 \times 2) / 1500$
 $Kw/1000\text{ rpm} = 100$

Coupling selection based on max rating: A4B

Coupling Bore Capacity: 75 mm

Maximum Speed for the A4B: 3275 rpm unbalanced.

DBSE for the A4B Type SP: 140 mm

The A4B Type SP is acceptable in this application.

Service Factors - SF

Load Characteristics	Electric Motor, Steam Turbine, Gas Turbine	Steam Engine, Water Turbine, 8 Cyl. Recip. Engine	6 Cyl. Recip. Engine	4 Cyl. Recip. Engine
Constant Torque eg. Centrifugal pumps, compressors & blowers, light duty agitators and fans.	1.0	1.5	2.0	2.5
Slight Fluctuations eg. Slurry pumps, Screw compressors, Lobe and Vane Blowers.	1.5	2.0	2.5	3.0
Moderate Fluctuations and/or Slight Shock Loads Double acting pumps, Recip. Comp.	2.0	2.5	3.0	3.5
Large Fluctuations and/or Moderate Shock Loads 1 or 2 Cylinder Recip.pumps.	2.5	3.0	3.5	4.0
Shock Loads or Light Torque Reversals Slitters, Rod Mill, Hot Mill	3.0	3.5	4.0	Consult Factory
Heavy Shock Loads or Large Torque Reversals Feed Rolls, Reversing Mills	Consult Factory	Consult Factory	Consult Factory	Consult Factory

(1) Use a minimum Service Factor of 1.25 when driving through a gearbox or using a direct on-line electric motor.

(2) Consult Sales when using a reciprocating engine with fewer than 4 cylinders.

(3) Service Factors provided are for reference only. Customer experience may dictate the selection of different service factors.

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