INTER PLANT STANDARD – STEEL INDUSTRY		
IPSS	**SPECIFICATION FOR RIGID COUPLINGS**	**IPSS: 1-01-011-18 (First Revision)**
	Corresponding IS does not exist	Formerly-: IPSS: 1-01-011-85

0. FOREWORD

0.1 Interplant standardization in steel industry has been initiated under the aegis of the Indian Standards Institution (ISI) and the Steel Authority of India Limited (SAIL). The Interplant Standards prepared by the Standard Committee on Mechanical Drives, IPSS 1:1, with the active participation of the representatives of all the steel plants and established manufacturers of rigid Couplings was adopted by the Approval Committee on Consumable Stores and General Equipment, IPSS 1, on 30 March, 1985. Thereafter, this standard revised by IPSS 1:1, Standard Committee on Mechanical Drives in **November, 2018.**

0.2 Interplant Standards for steel industry primarily aim at achieving rationalization and unification of parts and sub-assemblies used in steel plant equipment and accessories and provide guidance in indenting stores or equipment for existing or new installations by individual steel plants. For exercising effective control or inventories, it is advisable to select a fewer number of sizes (or /types) from among those mentioned in this standard for the purpose of company standards of individual steel plants. It is not desirable to make deviations in technical requirements.

1. **Scope** – This Interplant Standard covers only the requirements of detachable rigid couplings used for connecting two shaft ends fitted with keys. It does not cover integrally forged end type rigid couplings.

2. **Rating and Dimensions** – Rating and dimensions of rigid coupling shall be in accordance with Table 1 read with Fig. 1.

3. **Material of Construction**

3.1 **Coupling Flange** – Coupling flanges shall be either forged steel 45C8 of IS: 2004-91 cast steel conforming to IS: (1030-1998) 'Specification for carbon steel castings for general engineering purposes (Fifth Revision).

3.2 Bolts – High Tensile – Bolts used in rigid couplings shall be according to IS: 3640-1982 'Specification for hexagonal fit bolts'. This shall further conform to Class 8.8 for bolts and Class 8 for nuts.

3.3 Spring Washers – shall conform to IS: 4072-1975 “Specification for steel for spring washers’. Mild steel plain washers may be used if required by the customer.

3.4 The general shape of the coupling shall be as given in Figure-1 of IPSS 1-01-006-18. The toothed hubs and the covers shall be machined all over for balancing. The couplings shall be fitted with suitable grease nipples for lubricating the teeth and grids. Suitable seals shall be fitted to prevent leakages of lubricants.

4 Technical Requirement

4.1 Bolts holes of both the flanges shall be jig drilled and finally jig reamed together.

4.2 The flanges shall be machined all over and the corners and edges shall be rounded to avoid injury.

4.3 Operating characteristics of the coupling shall be same in both directions.

4.4 Match mark shall be punched on to coupling halves.

5 **Designation** – Rigid coupling having an outside diameter of 140 mm shall be designated as

RC–140. IPSS: 1-01-011-18

6 **Marking** – Coupling halves shall be punched marked with the following:

a) Manufacturer’s name/trade-mark, and
b) Coupling designation

7 Protective Coating

7.1 Each coupling shall be coated with anti-corrosive and rust proofing material.

8 Guarantee

The couplings shall be guaranteed for a period of eighteen months from the trade of dispatch or 12 months from the date of commissioning, whichever is earlier.

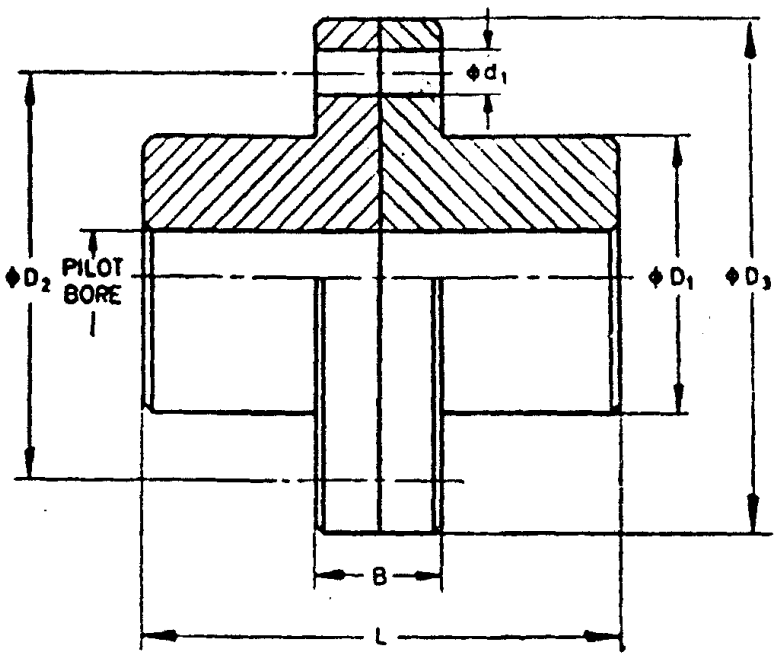

FIG. 1 DIMENSIONS OF FLANGED COUPLING (RIGID)

TABLE 1 RATING AND DIMENSIONS OF RIGID COUPLING

(*Clause* 2)

Coupling No.	kW per 100 rev/m	Pilot Bore	Maximum Bore (*d*)	Boss Diameter D_1	PCD D_2	Outside Diameter D_3	Overall Length *L*	Bolt Hole Diameter d_1H7	No. of Bolts	Overall Thickness of Flanges *B*	Mass in kg (Approx)
RC-120	13·40	20	40	65	95	120	115	11	6	30	4·5
RC-140	26·80	25	50	80	110	140	145	13	6	34	8·0
RC-155	45·56	30	60	95	125	155	155	13	6	34	12·5
RC-180	51·02	30	45	87	140	180	165	17	6	37	18
RC-220	93·80	40	60	106	170	220	175	17	6	44	25
RC-225	131·34	40	65	115	185	225	185	17	6	44	37
RC-260	187·60	50	75	124	215	260	200	17	8	50	50
RC-305	281·40	60	90	162	245	305	225	21	8	58	72
RC-375	356·44	80	106	206	275	375	275	21	8	62	100
RC-400	487·16	90	130	219	305	400	325	21	10	70	125
RC-450	900	150	180	325	380	450	460	25	12	90	160
RC-560	1 500	180	200	400	470	560	550	32	14	104	200