

BUREAU OF INDIAN STANDARDS
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Doc No.: PGD 36 (18402)
February 2022

Draft Indian Standard

**Taper Male Stud Tee Body (Stud Branch) for Oil Hydraulic
Couplings — Specification
Part 1 Made from Forgings
(First Revision of IS 9724 Part 1)**

ICS 23.100.40

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Last date for receipt of comment
is 23 April 2022

Fluid Power Systems Sectional Committee, PGD 36

FOREWORD

(Formal clauses will be added later)

This standard covers taper male stud tee bodies (stud branch) made from forgings only. The tee bodies made from bar stock are covered in IS 9724 (Part 2) Taper Male Stud Tee Body (Stud Branch) for Oil Hydraulic Couplings — Specification Part 2 Made from Bar Stock

Hydraulic fittings come in a wide range of types and applications. They are used to connect the hydraulic hose to components like hydraulic cylinders, pipes, tubes, or different types of hydraulic hoses in hydraulic systems. The different types of hydraulic fittings allow the fluid to flow, change its direction, divert, or mix. They are designed for high pressure applications and are leak proof and have high torque resistance. These fittings are widely used in hydraulic-powered applications including plumbing, robotics, assembly lines, and heavy equipment.

This standard was first published in 1981 taking assistance from the following standards:

- | | |
|-----------------|--|
| DIN 3906 : 1966 | Non-soldered taper-bush type pipe unions; T used as an adaptor with taper thread on screwed-in end for use with union nut. |
| BS 4368 | Specification for carbon and stainless steel compression couplings for tubes
Part 1 : 1972 Heavy series (metric)
Part 3 : 1974 Light series (metric) |

The first revision has been taken up to keep pace with the latest technological developments and international practices. In this revision following major changes have been made:

- a) Table 1 has been revised and
- b) Clause on Surface Protection has been revised.

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For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*).'

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1 SCOPE

This standard specifies the dimensions, material and other requirements for taper male stud tee bodies (stud branch) made from forgings for use in oil-hydraulic systems.

2 REFERENCES

The standards listed below contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreement based on this standard are encouraged to investigate the possibility of applying the most recent edition of the standards indicated below:

<i>IS No.</i>	<i>Title</i>
554: 1999/ ISO 7-1 :1994	Pipe Threads Where Pressure-Tight Joints are Made on The Threads Dimensions, Tolerances and Designation (<i>fourth revision</i>)
1367 (Part 11) : 2020/ ISO 4042: 2018	Technical Supply Conditions for Threaded Steel Fasteners Part 11 Electroplated Coating Systems (<i>fourth revision</i>)
1875: 1992	Carbon Steel Billets, Blooms, Slabs and Bars for Forgings — Specifications (<i>fifth revision</i>)
8805: 2002	General Requirements for Ferrule Type Couplings used in Oil- Hydraulic Systems(<i>first revision</i>)
9767: 1981	Specifications for Tee Coupling Assemblies for Oil-Hydraulic Systems
14962 (Part 1) : 2018	ISO General Purpose Metric Screw Threads — Tolerances Part 1 Principles and Basic Data (<i>first revision</i>)

3 DIMENSIONS

The dimensions of taper male stud tee bodies shall be as given in Table 1.

4 MATERIAL

Taper male stud tee bodies shall be manufactured with steel of grade 15C8 (Class 1A) conforming to IS 1875 or any other steel as agreed to between the user and the manufacturer.

5 SURFACE PROTECTION

Taper male stud tee bodies shall be zinc plated as per IS 1367 Part 11, unless otherwise agreed to between the user and manufacturer.

6 GENERAL REQUIREMENTS

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6.1 These taper male stud tee bodies are intended for assembly in accordance with Type A of IS 9767. For details not covered in this standard, reference shall be made to IS 8805.

6.2 Surface Roughness

All the machined surface taper male stud tee body shall have a surface roughness value $R_a \leq 2.5$ micrometers.

7 DESIGNATION

A taper male stud tee body of light series L, for outside diameter of tube 6 mm and conforming to this standard shall be designated as:

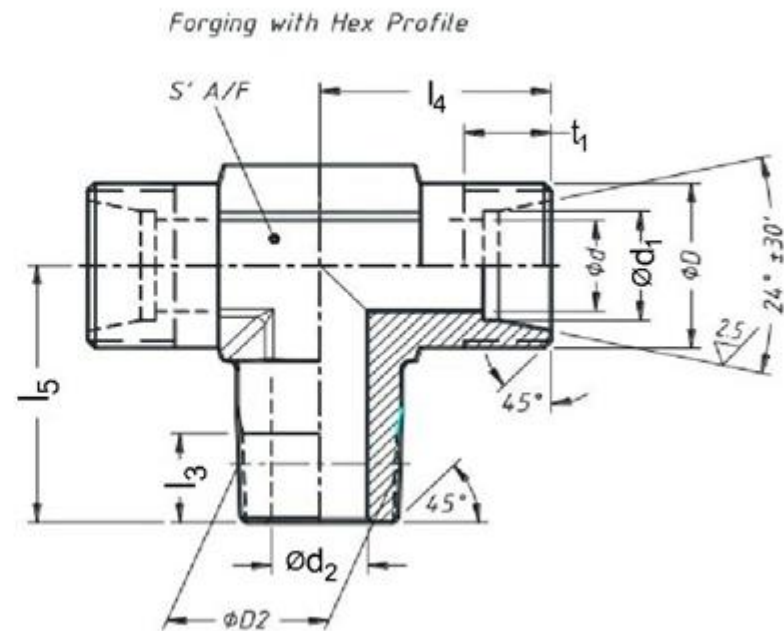
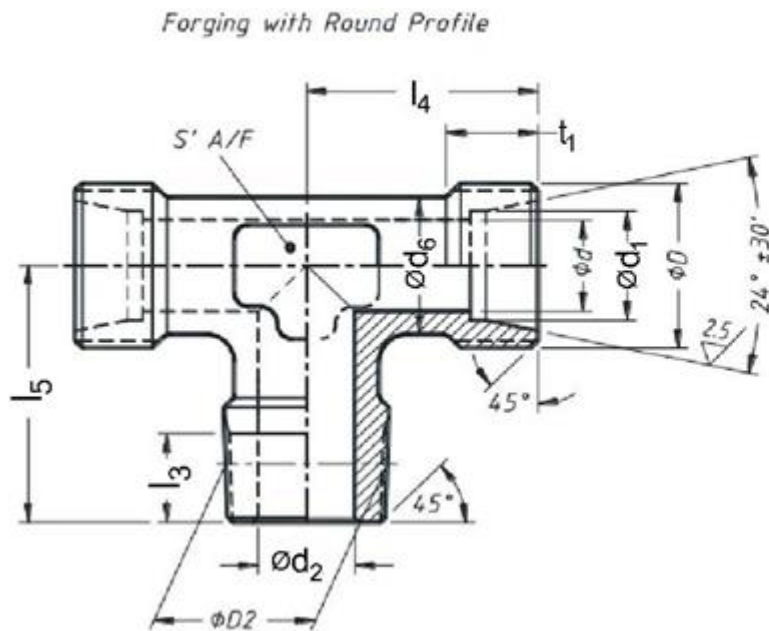
Stud Tee Body L6 IS 9724 (Part 1)

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Table 1 Dimensions for Taper Male Stud Tee Body (Stud Branch)
(Clause 3)
All dimensions are in millimeters



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Series	Nominal Pressure (MPa)	Outside Dia of Tube	D ¹⁾	D ₂ ²⁾	d	d ₁ B11	d ₂	d ₆	t ₁ ±0.2	13 ±0.2	14 ±0.3	15 ±0.3	S' A/F ³⁾	
													Round profile forging	Hex profile forging
Very Light LL	10	4	M8 x 1.0	R 1/8	3	4	3.5	6.5	6	8	15	17	9	10
Light L	25	6	M12 x 1.5	R 1/8	4	6	4	10.0	7	8	19	20	12	12
		8	M14 x 1.5	R 1/4	6	8	6	11.0	7	12	21	26	12	14
		10	M16 x 1.5	R 1/4	8	10	7	13.0	8	12	22	27	14	17
		12	M18 x 1.5	R 3/8	10	12	9	15.0	8	12	24	28	17	19
		15	M22 x 1.5	R 1/2	12	15	11	19.0	9	14	28	34	19	22
	16	M26 x 1.5	R 1/2	15	18	14	22.0	9	14	31	36	24	27	
Heavy S	40	6	M14 x 1.5	R 1/4	4	6	4	11.0	9	12	23	26	12	14
		8	M16 x 1.5	R 1/4	5	8	5	13.0	9	12	24	27	14	17
		10	M18 x 1.5	R 3/8	7	10	7	15.0	9	12	25	28	17	19
		12	M20 x 1.5	R 3/8	8	12	8	17.0	9	12	29	28	17	22
		16	M24 x 1.5	R 1/2	12	16	12	22.0	11	14	33	32	24	24

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- 1) Threads shall conform to Class 6g of 14962 Part 1.
 - 2) Threads shall conform to IS 554.
 - 3) For sizes up to and including 24mm, tolerances shall be $_{-0.8}^0$ mm mm, and for sizes larger than 24mm, they shall be $_{-1}^0$ mm.
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8 BIS CERTIFICATION MARKING

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the products may be marked with the standard mark.