

BS 5242PART2-75 TUBES FOR FLUID POWER CYLINDER BARRELS

Tubes for fluid power cylinder barrels

1. Scope

PART 2

Specification for non-ferrous metallic tubes with specially finished bores mechanical properties, dimensional requirements, tolerance, surface texture and technical delivery condition for tubes used as barrels for pneumatic fluid power cylinders, the tubes being seamless or welded type in the as-drawn, stress relieved or fully heat treated condition with plain ends and having bores which are specially finished, with or without metal removal.

2. Chemical Composition

Grade	Mfg. Process	Chemical Composition (%)								
		C	Si	Mn	P	S	Ni	Cr	Mo	Others
HP1	S, W	0.25Max*	-	-	0.05Max	0.05Max	-	-	Ec 0.50Max	t 10mmMax 10<t 0.20Max 20<t 50Max
HP2	S, W	0.25Max*	-	-	0.05Max	0.05Max	-	-	Ec 0.50Max	t 10mmMax 10<t 0.20Max 20<t 50Max
HP3	S, W	0.25Max*	-	-	0.05Max	0.05Max	-	-	Ec 0.55Max	t 10mmMax 10<t 0.20Max 20<t 50Max
HP4	S, W	0.25Max*	-	-	0.05Max	0.05Max	-	-	Ec 0.50Max	-
HP4	S, W	0.25Max*	-	-	0.05Max	0.05Max	-	-	Ec 0.50Max	-
HP6	S, W	0.25Max*	-	-	0.05Max	0.05Max	-	-	Ec 0.55Max	-

$$EC \text{ (Carbon Equivalent)} = C + Mn/b + (Ni+Cu)/15 + (Cr + Mo + V)/5$$

3. Mechanical Properties

Grade	Tensile Test MPa or N/mm ²		Remarks (Similar to JIS)
	Min Yield point	Tensile Strength	
HP1	235	360Min	(STC370)

	225 215		
HP2	335 315 285	490Min	(STC510A)
HP3	465 455 425	550Min	-
HP4	385	450Min	(STC440)
HP4	445	550Min	-
HP6	545	640Min	(STC590A)