

JIS (2012) 伸銅品(棒材) Copper and copper alloys Wrought products (For solid round)

名称/識別 Formal name and or Classification	JIS 規格番号 Standard No.	合金番号 仕様 1) Alloy No. Designation	旧記号*) Former symbol	化学成分 Chemical Composition 質量% mass % 範囲表示除き以下、未満<、<:超える max.except as indicated. Under(Excluding) <、											
				Cu	Pb	Fe	Sn	Zn	Al	Mn	Ni	Si			
無酸素銅 Oxygen free copper	1	H 3250 C 1020	BE-F BD-O	OFCu-B*	99.96 min	-	-	-	-	-	-	-	-	-	-
タフピッチ銅 Tough-pitch copper	2	H 3250 C 1100	BE-F BD-O	TCu-B*1	99.90 min	-	-	-	-	-	-	-	-	-	-
りん脱酸銅 Phosphorous Deoxidized copper	3	H 3250 C 1201	BE-F BD-O	DCu-B*1A	99.90 min	-	-	-	-	-	-	-	-	-	-
	4	H 3250 C 1220	BE-F BD-O	DCu-B*1B	99.90 min	-	-	-	-	-	-	-	-	-	-
黄銅 Brass	5	H 3250 C 2600	BE-F BD-O	Bs-B*1	68.5~71.5	0.05	0.05	-	R	-	-	-	-	-	-
	6	H 3250 C 2700	BE-F BD-O	Bs-B*2	63.0~67.0	0.05	0.05	-	R	-	-	-	-	-	-
	7	H 3250 C 2800	BE-F BD-O	Bs-B*3	59.0~63.0	0.10	0.07	-	R	-	-	-	-	-	-
快削黄銅 Free cutting brass(Leaded brass)	8	H 3250 C 3601	BD-O	BsBM-B*1S	59.0~63.0	1.8~3.7	0.30	0.50 2)	R	-	-	-	-	-	-
	9	H 3250 C 3602	BE-F BD-F	BsBM-B*1	59.0~63.0	1.8~3.7	0.50	1.0 2)	R	-	-	-	-	-	-
	10	H 3250 C 3603	BD-O	BsBM-B*2S	57.0~61.0	1.8~3.7	0.35	0.6 2)	R	-	-	-	-	-	-
	11	H 3250 C 3604	BE-F BD-O	BsBM-B*2	57.0~61.0	1.8~3.7	0.50	1.0 2)	R	-	-	-	-	-	-
鍛造用黄銅 Forging brass	12	H 3250 C 3712	BE-F BD-F	PbBs-B*1	58.0~62.0	0.25~1.2	0.8 2)	-	R	-	-	-	-	-	-
	13	H 3250 C 3771	BE-F BD-F	PbBs-B*2	57.0~61.0	1.0~2.5	1.0 2)	-	R	-	-	-	-	-	-
ネーバル黄銅 Naval brass	14	H 3250 C 4622	BE-F BD-F	NBsB-B*1	61.0~64.0	0.30	0.20	0.7~1.5	R	-	-	-	-	-	-
	15	H 3250 C 4641	BE-F BD-F	NBsB-B*2	59.0~62.0	0.50	0.20	0.50~1.0	R	-	-	-	-	-	-
りん青銅 Phosphor bronze	16	H 3270 C 5191	B-H	PB-B*2	99.5min 3)	0.02	0.10	5.5~7.0	0.20	-	-	-	-	-	-
	17	H 3270 C 5212	B-H	PB-B*3	99.5min 3)	0.02	0.10	7.0~9.0	0.20	-	-	-	-	-	-
快削りん青銅 Leaded phosphor bronze	18	H 3270 C 5441	B-H	PbPBB2	99.5min 3)	3.5~4.5	-	3.0~4.5	1.5~4.5	-	-	-	-	-	-
アルミ青銅 Aluminium bronze	19	H 3250 C 6161	BE-F BD-F	AB-B*1	83.0~90.0	0.02	2.0~4.0	-	-	7.0~10.0	0.50~2.0	0.50~2.0	-	-	-
	20	H 3250 C 6191	BE-F BD-F	AB-B*2	81.0~88.0	-	3.0~5.0	-	-	8.5~11.0	0.50~2.0	0.50~2.0	-	-	-
	21	H 3250 C 6241	BE-F BD-F	AB-B*3	80.0~87.0	-	3.0~5.0	-	-	9.0~12.0	0.50~2.0	0.50~2.0	-	-	-
高力黄銅 High strength brass	22	H 3250 C 6782	BE-F BD-F	HBsB-B*1 HBsB-B*2	56.0~60.5	0.50	0.10~1.0	-	R	0.20~2.0	0.50~2.5	-	-	-	-
	23	H 3250 C 6783	BE-F BD-F	HBsB-B*3	55.0~59.0	0.50	0.20~1.5	-	R	0.20~2.0	1.0~3.0	-	-	-	-
鉛レス・カドミウムレス 快削黄銅棒 6) Lead & Cadmium free brass rods and bars having free-cutting machinability	24	H 3250 C 6801	BE-F BD-F	-	57.0~64.0	0.01	0.50	0.1~2.5	R	-	-	-	-	-	-
	25	H 3250 C 6802	BE-F BD-F	-	57.0~64.0	0.01~ 0.10	0.7	0.1~3.0	R	-	-	-	-	-	-
	26	H 3250 C 6803	BE-F BD-F	-	57.0~64.0	0.01	0.50	0.1~2.5	R	-	-	-	-	-	-
	27	H 3250 C 6804	BE-F BD-F	-	57.0~64.0	0.01~ 0.10	0.7	0.1~3.0	R	-	-	-	-	-	-
	28	H 3250 C 6932	BE-F BD-F	Ecobrass	74.0~78.0	0.09	0.10	0.2	R	-	0.1	0.2	2.7~3.4	-	-
洋白 Nickel silver	29	H 3270 C 7521	B-H	NS-B*2	62.0~66.0	0.03	0.25	-	R	-	0.50	16.5~19.5	-	-	-
	30	H 3270 C 7541	B-H	NS-B*3	60.0~64.0	0.03	0.25	-	R	-	0.50	12.5~15.5	-	-	-
快削洋白 Leaded nickel silver	31	H 3270 C 7941	B-H	PbNSB	60.0~64.0	0.8~1.8	0.25	-	R	-	0.50	16.5~19.5	-	-	-

1) BE 押出棒 (Extrusion bar) -F 製造のまま(As fabrication)
BD 引抜き棒 (Drawing bar) -O 焼きなまししたもの (Annealed)
BF 鍛造棒 (Forging bar) -1/2H 硬さ質別 OとHの中間 (Middle hardness between O and H)
2) =Fe+Sn 3) =Cu+Sn+P

*に入る記号 Classified following symbol shall be put into *
D 引抜き棒 (Drawing)
E 押出 (Extrusion)

米国 ASTM 鉛レス銅合金伸銅品 自社開発材 (ASTM/USA Lead free wrought products. Corporation's own material)

名称/識別 Formal name and or Classification	ASTM		ブランド名 Brand name	化学成分 Chemical Composition 質量% mass % 範囲表示除き以下、未満<、<:超える max.except as indicated. Under(Excluding) <、											
	規格番号 Standard No	合金番号 Alloy No.		Cu	Pb	Fe	Sn	Zn	Al	Mn	Ni	Si			
ビスマス黄銅 Bismuth brass Bronz1 Patent 受注生産 (Make to order)	B124 Forging B249 General rqt. B283 Die forging B967 Bismuth brass Rod & Bar	C 49355	NEXTBRASS - SCC	63.0~69.0	0.09max	0.10max	0.50~2.0	27.0~35.0	-	0.10max	-	1.0~2.0	-	-	-
Lead free				残R 9)	-	-	1.00 9)	28.20 9)	-	-	-	28.20 9)	-	-	-
NEXTBRASS SCCの特徴 Distinctive qualities	①鉛レス、カドミウムレス Lead and Cadmium free brass ②耐脱亜鉛性 Dezincification resistance ③耐エロージョン耐腐食性 Erosion-corrosion resistance ④鍛造後の熱処理不要 Can use without a heat treatment after forging ⑤接合性 (半田付け・ロー接) 優秀 Soldering & Brazing: Excellent ⑥Ni-Crメッキ性 優秀 Ni-Cr plating: Excellent ⑦抗菌材 Antimicrobial														

径または最小対片距離 の区分 mm	引張試験 Mechanical properties		硬度試験 Hardness		比重 Specific gravity ρ	導電率 Electric Conductivity IACS%	切削性 Machin- ability C3604 =100	熱間鍛造性 Hot Forge- ability C3771 =100	熱間鍛造温 度域 Hot working temperature °C	米ASTM相当材 ASTM/USA concerned Applicable
	引張強さ Tensile St. N/mm ²	伸び Elongation %	ビッカース Vickers HV	ブリネル Brinell HBW 10/3000						
<:Exceed	Bi	Cd	P	Se+Al+Sb+Te+Ni						
6mm	195min	25min	-	-	8.94	101	20	65	700~870	C 10200
6~110mm	195min	30min	-	-	8.89~8.94	101	20	65	700~870	C 11000
6mm	195min	25min	-	-	8.94	98	20	65	750~875	C 12000
6~110mm	195min	30min	-	-	8.94	85	20	65	700~870	C 1220
6mm	195min	25min	-	-	8.53	28	30		725~850	C 26000
6~75mm	275min	45min	-	-	8.47	27	30			C 27000
6mm	295min	30min	-	-	8.39	28	40	90	600~800	C 28000
6~75mm	295min	40min	-	-	8.50	26	100			C 36000
6mm	315min	25min	-	-	8.50	26	100		600~750	C 36000
6~75mm	315min	35min	-	-	8.41	27	60		600~800	C 37100
6mm	315min	15min	-	-	8.44	27	80	100	630~780	C 37700
6~50mm	345min	20min	-	-	8.41	26	30	90	600~750	
6~110mm	365min	20min	-	-	8.83	13	20			C 51900
6~50mm	345min	20min	-	-	8.80	13	20			C 52100
6~110mm	375min	20min	-	-	8.89	19	80			C 54400
6~50mm	345min	15min	-	-	7.50	10.5	50			C 61900
6~50mm	685min	15min	-	-	7.45	12				C 62400
6~50mm	460min	20min	-	-						CDA C678
6~110mm	490min	15min	-	-						
6~50mm	510min	15min	-	-						
6~50mm	540min	12min	-	-						
0.5~4.0	0.0075	0.2						(90)		
0.5~4.0	0.0075	0.2								
0.5~4.0	0.0075	0.2	0.02~0.6							
0.5~4.0	0.0075	0.2	0.02~0.6							
0.05	0.0075	0.05~0.2								
13<~4)25mm	440~580	-	115min	-	8.73	6.0	20			C 75200
25<~4)50mm	410~550	-	110min	-	8.70	7.0				C 75400
13<~4)25mm	450~590	-	115min	-						
25<~4)50mm	390~540	-	100min	-						
20<~4)25mm	440~580	-	120min	-						
25<~4)50mm	410~550	-	110min	-						

5) 耐脱亜鉛腐食用に使用する場合は、JISによる脱亜鉛腐食試験を行った場合、JISで規定する評価判定基準値を満足しなければならない。
なお、判定基準については当事者間の協定による。 When those solid bars are used as parts having dezincification resistant, shall do the dezincification test under JIS. And the result shall be satisfied by JIS table in which the criterion of evaluation is described. In addition, about the criterion of evaluation, shall be agreed by the parties concerned.

径または最小対片距離 の区分 mm	引張試験 Mechanical properties			硬度 Rockwell Hardness HRC	比重 Specific gravity ρ	導電率 Electric Conductivity IACS%	切削性 Machin- ability C3604 =100	熱間鍛造 Hot forging temperature °C	熱間鍛造温 度域 Hot forging temperature °C	熱間鍛造性 Hot forgeability C3771 =100	焼きなまし温度 Annealing temperature °C				
	引張強さ Tensile Strength Mpa 7)	0.2%耐力 Yield St. 0.2 offset Mpa 7)	伸び Elongation %												
<:Exceed	Bi	Cd	P	その他 Others											
0.5~1.5	-	-	-	B: 0.001max	M30 8) 8~65mm O60 8) 8~65mm	345min	140min	15 min	Typ. 85 Typ. 82	8.3	12.2	80	660~740	80	500
0.70 9)													660~720 9)		

Typical uses: For forging and machining
8) 参考値 (For information) TYP=Typical values (通常値) 9) 推奨値 Recommended values