

Old National Denominatio	UNI Code	UNI Mat.	EU Mat.	EU Code	Sn % min	Sn % max	Zn % min	Zn % max	Pb % min	Pb % max	Fe % min	Fe % max	Ni % min	Ni % max	Al % min	Al % max	P % min	P % max	Si % min	Si % max	Mn % min	Mn % max	Sb % min	Sb % max	Cu % min	Cu % max	
PHOSPHOR BRONZES																											
		CuSn6	CW452K		5.50	7.00	0.00	0.20	0.00	0.02	0.00	0.10	0.00	0.20			0.01	0.40							Res		
		CuSn8	CW453K		7.50	8.50	0.00	0.20	0.00	0.02	0.00	0.10	0.00	0.20			0.01	0.40							Res		
BRASS																											
		CuZn33Pb2	CC750S		0.00	1.50	Res		1.00	3.00	0.00	0.80	0.00	1.00	0.00	0.02	0.00	0.05	0.00	0.05	0.00	0.20			63.00	67.00	
		CuZn33Pb2Si	CC751S		0.00	0.80	Res		0.80	2.20	0.25	0.50	0.00	0.80	0.00	0.10			0.65	1.10	0.00	0.15	0.00	0.05	63.50	66.00	
		CuZn37Pb2NiAlFe	CC753S		0.00	0.80	Res		1.80	2.50	0.50	0.80	0.50	1.20	0.40	0.80	0.00	0.02	0.00	0.05	0.00	0.20	0.00	0.05	58.00	61.00	
		CuZn39Pb1Al	CC754S		0.00	1.00	Res		0.50	2.50	0.00	0.70	0.00	1.00	0.00	0.02	0.00	0.02	0.00	0.05	0.00	0.50			58.00	63.00	
		CuZn39Pb1AlB	CC755S		0.00	0.35	Res		1.20	1.70	0.05	0.20	0.00	0.20	0.40	0.70			0.00	0.05	0.00	0.05			59.50	61.00	
		CuZn15As	CC760S		0.00	0.30	Res		0.00	0.50	0.00	0.15	0.00	0.10	0.00	0.01			0.00	0.02	0.00	0.10			83.00	88.00	
		CuZn16Si4	CC761S		0.00	0.30	Res		0.00	0.80	0.00	0.60	0.00	1.00	0.00	0.10	0.00	0.03	3.00	5.00	0.00	0.20	0.00	0.05	78.00	83.00	
		CuZn25Al5Mn4Fe3	CC762S		0.00	0.20	Res		0.00	0.20	1.50	4.00	0.00	3.00	3.00	7.00	0.00	0.03	0.00	0.10	2.50	5.00	0.00	0.03	60.00	67.00	
		CuZn32Al2Mn2Fe1	CC763S		0.00	1.00	Res		0.00	0.15	0.50	2.00	0.00	2.50	1.00	2.50			0.00	1.00	1.00	3.50	0.00	0.08	59.00	67.00	
		CuZn34Mn3Al2Fe1-C	CC764S		0.00	0.30	Res		0.00	0.30	0.50	2.50	0.00	3.00	1.00	3.00	0.00	0.03	0.00	0.10	1.00	4.00	0.00	0.05	55.00	66.00	
		CuZn35Mn2Al1Fe1	CC765S		0.00	1.00	Res		0.00	0.50	0.50	2.00	0.00	6.00	0.50	2.50	0.00	0.03	0.00	0.10	0.50	3.00	0.00	0.08	57.00	65.00	
		CuZn37Al1	CC766S		0.00	0.50	Res		0.00	0.50	0.00	0.50	0.00	2.00	0.30	1.80			0.00	0.60	0.00	0.50	0.00	0.10	60.00	64.00	
		CuZn38Al	CC767S		0.00	0.10	Res		0.00	0.10	0.00	0.50	0.00	1.00	0.10	0.80			0.00	0.20	0.00	0.50			59.00	94.00	
TIN BRONZE																											
B10 UNI	uni 7013/1	CuSn10	CuSn10	CC480K	9.00	11.00	0.00	0.50	0.00	1.00	0.00	0.20	0.00	2.00	0.00	0.01	0.00	0.20	0.00	0.02	0.00	0.10	0.00	0.20	88.00	90.00	
			CuSn11P	CC481K	10.00	11.50	0.00	0.05	0.00	0.25	0.00	0.10	0.00	0.10	0.00	0.01	0.50	1.00	0.00	0.01	0.00	0.05	0.00	0.05	87.00	89.50	
			CuSn11Pb2	CC482K	10.50	12.50	0.00	2.00	0.70	2.50	0.00	0.20	0.00	2.00	0.00	0.01	0.00	0.40			0.00	0.08	0.00	0.20	83.50	87.00	
B14 UNI	uni 7013/2	CuSn12	CuSn12	CC483K	11.00	13.00	0.00	0.50	0.00	0.70	0.00	0.20	0.00	2.00	0.00	0.01	0.00	0.60	0.00	0.01	0.00	0.20	0.00	0.15	85.00	88.50	
			CuSn12Ni2	CC484K	11.00	13.00	0.00	0.40	0.00	0.30	0.00	0.20	1.50	2.50	0.00	0.01	0.05	0.40	0.00	0.01	0.00	0.20	0.00	0.05	84.50	87.50	
	uni 7013/9	CuSn3Zn10Pb7	CuSn3Zn8Pb5	CC490K	2.00	3.50	7.00	9.50	4.00	6.00	0.00	0.50	0.00	2.00	0.00	0.01	0.00	0.05	0.00	0.01			0.00	0.30	81.00	86.00	
85/5/5/5 BZN7	uni 7013/8	CuSn5Zn5Pb5	CuSn5Zn5Pb5	CC491K	4.20	6.00	4.20	5.80	4.00	6.00	0.00	0.30	0.00	2.00	0.00	0.01	0.00	0.03	0.00	0.01			0.00	0.25	83.00	86.50	
			CuSn7Zn2Pb3	CC492K	6.00	8.00	1.50	3.00	2.50	3.50	0.00	0.20	0.00	2.00	0.00	0.01	0.00	0.10	0.00	0.01			0.00	0.25	85.00	89.00	
	uni 7013/7	CuSn7Zn4Pb6	CuSn7Zn4Pb7	CC493K	6.00	8.00	2.00	5.00	5.00	8.00	0.00	0.20	0.00	2.00	0.00	0.01	0.00	0.10	0.00	0.01			0.00	0.30	81.00	85.00	
			CuSn6Zn4Pb2	CC498K	5.50	6.50	3.00	5.00	1.00	2.00	0.00	0.25	0.00	1.00	0.00	0.01	0.00	0.05	0.00	0.01			0.00	0.25	86.00	90.00	
			CuSn5Zn5Pb2	CC499K	4.00	6.00	4.00	6.00	0.00	3.00	0.00	0.30	0.00	0.60	0.00	0.01	0.00	0.04	0.00	0.01			0.00	0.10	84.00	88.00	
	uni 7013/6	CuSn10Zn2																									
	uni 7013/10	CuSn10Zn2Ni2																									
LEADED BRONZES																											
		CuSn5Pb9	CC494K		4.00	6.00	0.00	2.00	8.00	10.00	0.00	0.25	0.00	2.00	0.00	0.01	0.00	0.10	0.00	0.01	0.00	0.20	0.00	0.50	80.00	87.00	
	uni 7013/3	CuSn10Pb10	CuSn10Pb10	CC495K	9.00	11.00	0.00	2.00	8.00	11.00	0.00	0.25	0.00	2.00	0.00	0.01	0.00	0.10	0.00	0.01	0.00	0.20	0.00	0.50	78.00	82.00	
	uni 7013/4	CuSn8Pb15	CuSn7Pb15	CC496K	6.00	8.00	0.00	2.00	13.00	17.00	0.00	0.25	0.50	2.00	0.00	0.01	0.00	0.10	0.00	0.01	0.00	0.20	0.00	0.50	74.00	80.00	
	uni 7013/5	CuSn5Pb20	CuSn5Pb20	CC497K	4.00	6.00	0.00	2.00	18.00	23.00	0.00	0.25	0.50	2.50	0.00	0.01	0.00	0.10	0.00	0.01	0.00	0.02			70.00	78.00	
		CuAl9	CC330G		0.00	0.30	0.00	0.50	0.00	0.30	0.00	1.20	0.00	1.00	8.00	10.50			0.00	0.20	0.00	0.50			88.00	92.00	
	uni 5273	CuAl9Fe3	CuAl10Fe2	CC331G	0.00	0.20	0.00	0.50	0.00	0.10	1.50	3.50	0.00	1.50	8.50	10.50			0.00	0.20	0.00	1.00			83.00	89.50	
	uni 5274	CuAl11Fe4																									
		CuAl10Ni3Fe2	CC332G		0.00	0.20	0.00	0.50	0.00	0.10	1.00	3.00	1.50	4.00	8.50	10.50			0.00	0.20	0.00	2.00			80.00	86.00	
	uni 5275	CuAl11Fe4Ni4	CuAl10Fe5Ni5	CC333G	0.00	0.10	0.00	0.50	0.00	0.03	4.00	5.50	4.00	6.00	8.50	10.50			0.00	0.10	0.00	3.00			76.00	83.00	
		CuAl11Fe6Ni6	CC334G		0.00	0.20	0.00	0.50	0.00	0.05	4.00	7.00	4.00	7.50	10.00	12.00			0.00	0.10	0.00	2.50			72.00	78.00	

Performance index/Type	CNB-JDB-10	CNB-JDB-20	CNB-JDB-30	CNB-JDB-40	CNB-JDB-50
Material	ZCuZn25Al6Fe3Mn4	CuSn5Zn5Pb5	Steel+CuSn6Zn6Pb3	HT250	GCR15
Max Move Load Capacity	100	60	70	250	60
Max Sliding Speed	dry0.4 oil0.5	2	2	0.1	0.5
Max PV Value Limit	3.8	0.5	0.6	2.5	0.8
Density	8.0	8.0	7.6	7.8	7.3
Tensile Strength	>600	>250	>500	>150	>250
Elongation	>10	>40	>10	-	-
Hardness	>21	>80	>80	HRC>55	160
Max Working Temperature	300	350	300	350	400
Friction coefficient	Oil Lubrication:0.03 Dry Friction:0.16	-	-	-	-

## Technical Insights on JDB Solid Lubricating Bushings

**Q: What are the base material differences across the CNB-JDB series?**

**A:** The series utilizes various specialized metals: **CNB-JDB-10** uses ZCuZn25Al6Fe3Mn4, while **CNB-JDB-20** is made of CuSn5Zn5Pb5. The **CNB-JDB-30** combines steel with CuSn6Zn6Pb3,

and the high-strength **CNB-JDB-40** and **50** models use HT250 and GCR15 respectively.

**Q: Which model offers the highest tensile strength and hardness for heavy-duty applications?**

**A:** The **CNB-JDB-40** provides the highest tensile strength at over 1500 MPa and a hardness rating exceeding HRC55. In comparison,

the standard **CNB-JDB-10** offers a tensile strength of over 600 MPa with a hardness above 210 HB.

**Q: How does the maximum working temperature vary between the different JDB types?**

**A:** Most models in the series, such as the 10 and 30, operate up to 300°C. The **CNB-JDB-50** offers the highest heat resistance with a maximum working temperature of 400°C,

while the **CNB-JDB-20** and **40** are rated for 350°C.

**Q: What are the friction characteristics and load capacities of the CNB-JDB-10?**

**A:** The **CNB-JDB-10** has a maximum move load capacity of 100 N/mm<sup>2</sup>. Its friction coefficient is 0.16 under dry friction conditions and drops to 0.03 when oil lubrication is applied.

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