

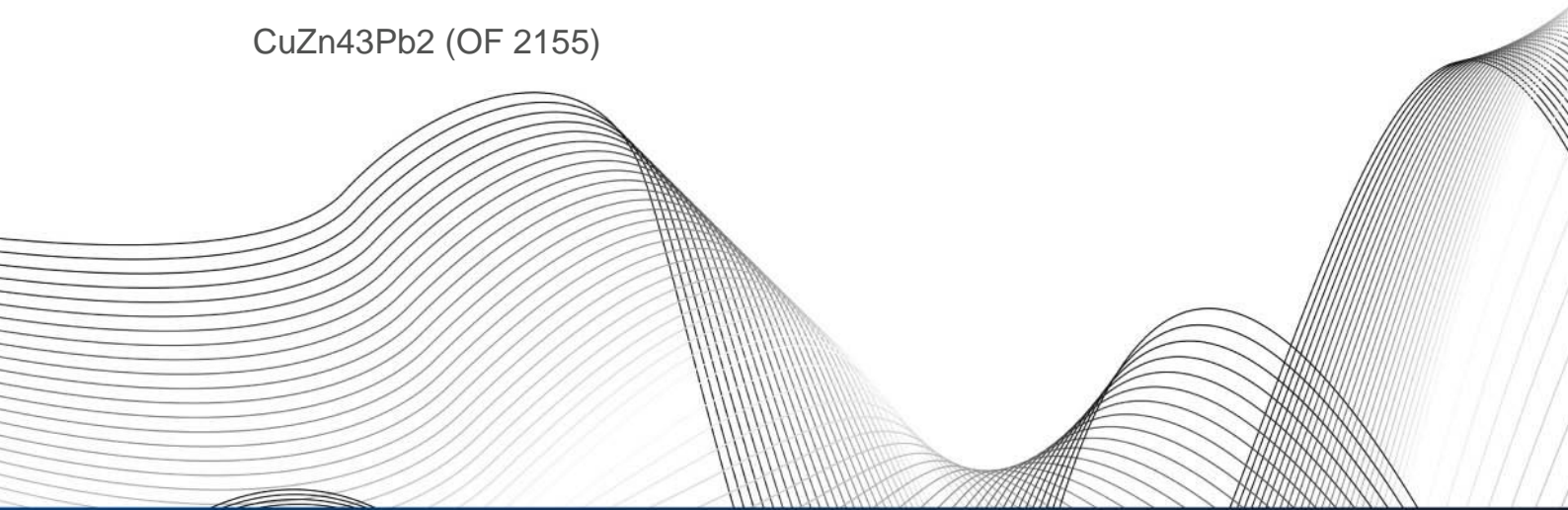


OTTO FUCHS
Dülken GmbH & Co. KG



Copper and Copper Alloys

CuZn43Pb2 (OF 2155)





	Cu	Zn	Pb	Sn	Fe	Mn	Ni	Al	Si	As	Co	Cr	Others
min.	55.0	Rem.	1.6	-	-	-	-	-	-	-	-	-	-
max.	57.0	-	3.0	0.3	0.3	-	0.3	0.05	-	-	-	-	0.2

Applications

CuZn43Pb2 is highly suitable for hot formed parts. OF 2155 is a very good alloy for use in profiles which provide complex shapes or very thin walls.

Examples of application:

Extruded profiles with thin walls
Profiles for use in architecture
Hand rails
Stair rails
Profiles for hinge-joints

Physical properties

At room temperature

Density	8.4	g/cm ³
Electrical conductivity	16.4	MS/m
	28	% I.A.C.S
Heat conductivity	126	W/(m*K)
Heat capacity	377	J/(kg*K)
Coefficient of thermal expansion	21.2	10 ⁻⁶ /K
Young's modulus	84	GPa
Melting range	870-885	°C

Microstructures

The microstructures of CuZn43Pb2 consist of a heterogeneous mixture of α - and β -phase. Pb is insoluble, it forms fine precipitations in the brass matrix.



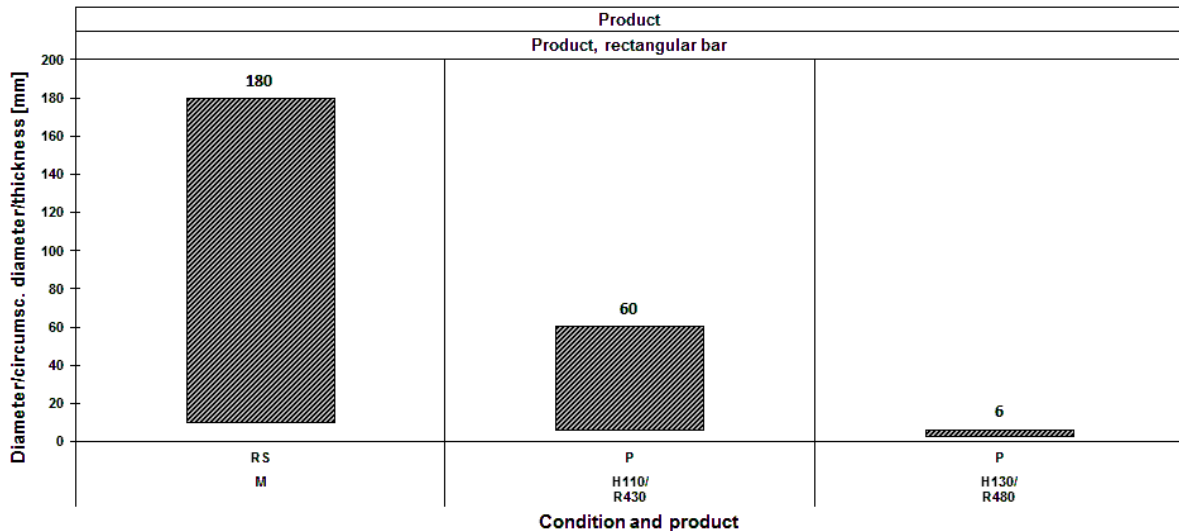
Consignment and measurements

Strength conditions

Product	Condition	Yield strength $R_{p0.2}$ [MPa]	Tensile strength R_m [MPa]	Elongation at break A [%]	Brinell-Hardness HBW 2.5/62.5
Profile, rectangular bar	M	**	**	**	**
Profile, rectangular bar	R430	(~200)	≥430	(~15)	/
	R480	(~330)	≥480	(~5)	/
	H110	/	/	/	≥110
	H130	/	/	/	≥130

- ** Condition M = without specified mechanical properties – as manufactured
 () The numbers are not requirements of the standard - they are for information only
 / No requirements in standard or not applicable

Specified dimensions for bars



- RS Rectangular bar
 P Profiles

Profiles and rectangular bars can be delivered up to 180 mm in extruded condition.

Other consignments

Rods in other strength and hardness conditions and dimensions, and tubes are available on request.



Processing

Shaping
Machinability good (80)
(CuZn39Pb3=100%)
Cold working poor
Hot working very good
Hot working temperature 625-725°C

Connecting
Resistance welding average
Shielded welding poor
Brazing average
Soldering very good

Surface treatment
Mechanical polishing very good
Electrolytic polishing poor
Galvanisation very good
Tin coating very good

Heat treatment

Soft annealing 425-550°C
Stress relieving 200-300°C

Special notes and remarks

There is a risk of stress corrosion cracking (SCC) in case of concurrent presence of mechanical stress and corrosive media (in particular ammoniac atmosphere).



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