

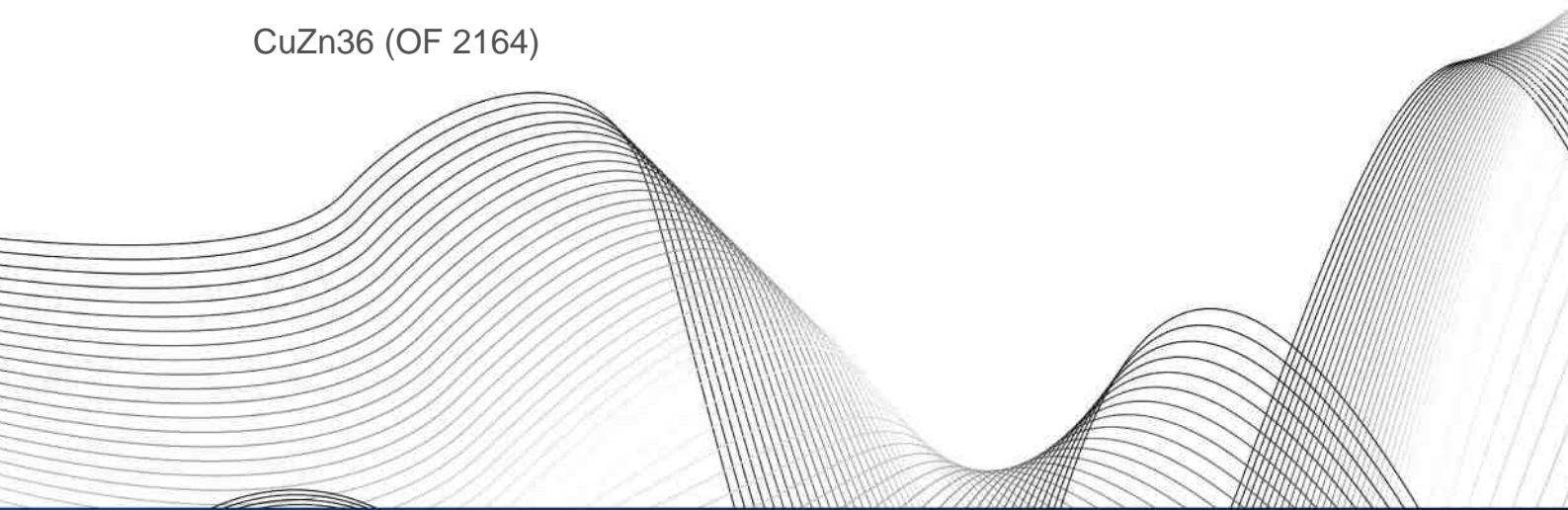


OTTO FUCHS
Dülken GmbH & Co. KG



Copper and Copper Alloys

CuZn36 (OF 2164)





	Cu	Zn	Pb	Sn	Fe	Mn	Ni	Al	Si	As	Co	Cr	Others
min.	63.5	Rem.	-	-	-	-	-	-	-	-	-	-	-
max.	65.5	-	0.05	0.1	0.05	-	0.2	0.02	-	-	-	-	0.1

Applications

Due to its excellent cold formability CuZn36 is used for parts which are produced by means of drawing and compression at room temperature.

Examples of application:

Tubes
Profiles
Drawn and deep drawn parts

Physical properties

At room temperature

Density	8.4	g/cm ³
Electrical conductivity	15.5	MS/m
	26.7	% I.A.C.S
Heat conductivity	121	W/(m*K)
Heat capacity	377	J/(kg*K)
Coefficient of thermal expansion	20.2	10 ⁻⁶ /K
Young's modulus	110	GPa
Melting range	900-920	°C

Microstructures

CuZn36 provides homogeneous microstructures consisting of α -phase. Depending on the cooling conditions of the forming processes some remnants of β -phase may be present in the microstructures.





Consignment and measurements

Strength conditions

Spec./ DIN EN	Condition	Yield strength R _{p0.2} [MPa]	Tensile strength R _m [MPa]	Elongation at break A [%]	Brinell- Hardness HBW 2.5/62.5
12163	M	**	**	**	**
12167					
12449					
12163	R290	≤230	≥290	≥45	/
12167		≤230	≥290	≥45	/
12449		≤180	≥290	≥50	/
12449	R360	≥180	≥360	≥25	/
12163	R370	≥240	≥370	≥14	/
12167		≥240	≥370	≥14	/
12449	R430	≥300	≥430	≥12	/
12167	R460	≥330	≥460	/	/
12167	H050	/	/	/	50-100
12449	H055	/	/	/	50-80
12163	H070	/	/	/	70-110
12449	H080	/	/	/	75-110
12167	H085	/	/	/	85-130
12163	H105	/	/	/	105-145
12167		/	/	/	105-145
12449	H110	/	/	/	≥105

DIN EN 12163:
Bars, general purpose

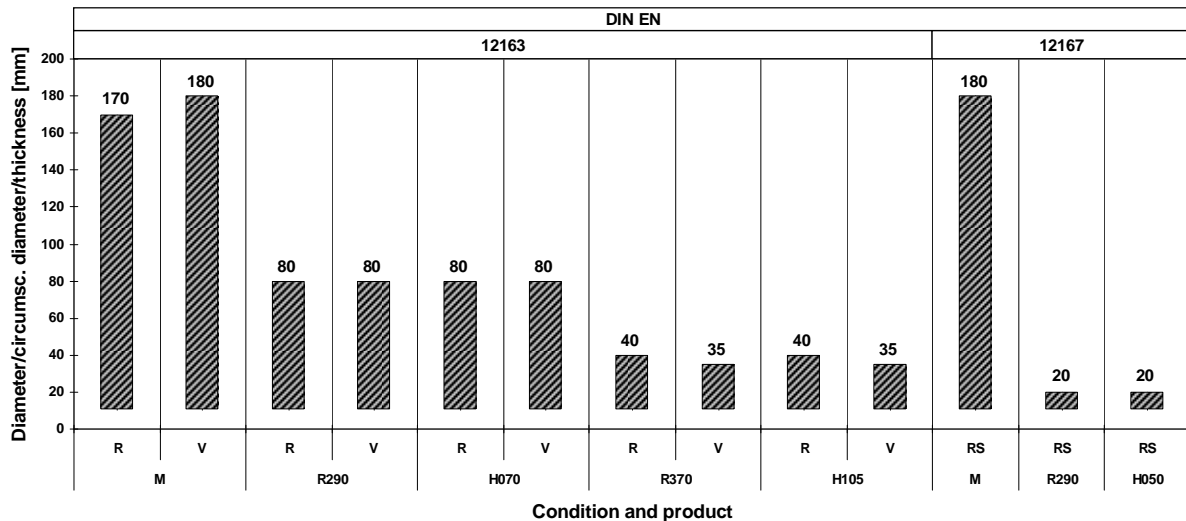
DIN EN 12167:
Profiles, rectangular bars

DIN EN 12449:
Seamless tubes

** Condition M = without specified properties-as manufactured

/ No requirements in standard or not applicable

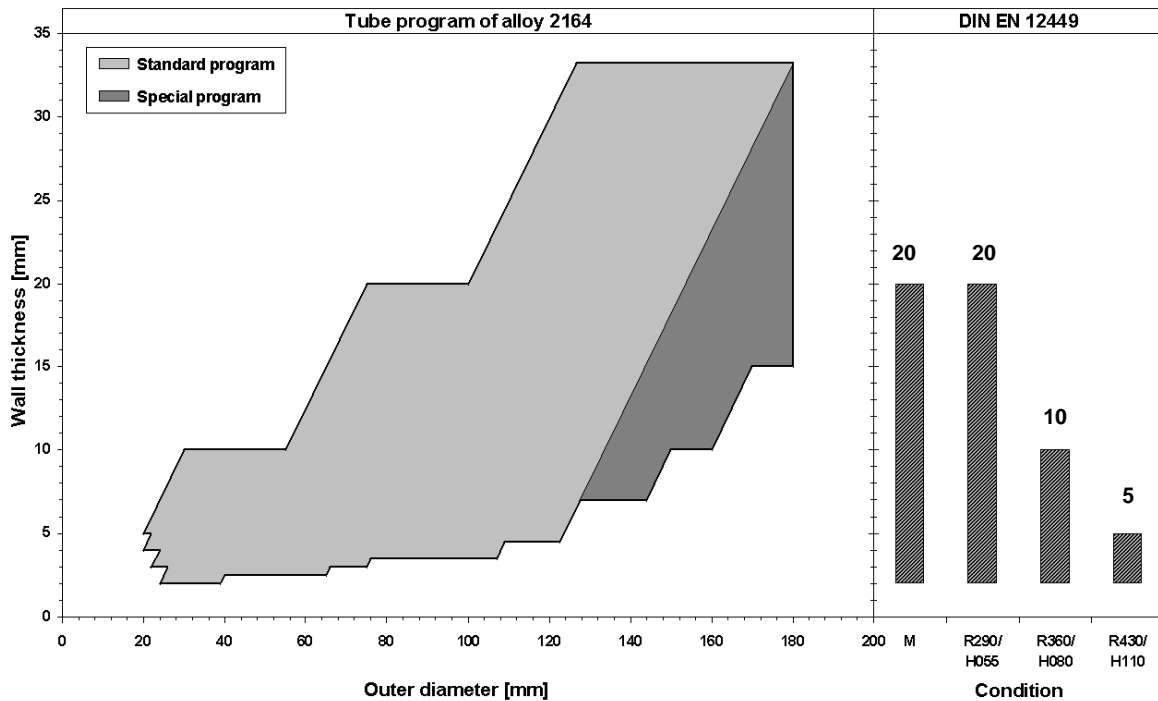
Specified dimensions for bars, pre-material for forging and forgings



R/V Rod/polygonal bar
VS-R/V Pre-material for forging round/polygonal
RS Rectangular bar

Profiles and rectangular bars can be delivered up to 180 mm in extruded and up to 130 mm in cold drawn condition. Pre-material for forging and forgings is dependent upon each individual case.

Specified dimensions for hollow bars and round tubes



Further dimensions for hollow bars and round tubes are available on request.

Other consignments

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

Processing		Heat treatment	
Shaping		Soft annealing	450-650°C
Machinability (CuZn39Pb3=100%)	average (35)	Stress relieving	200-300°C
Cold working	very good	Special notes and remarks	
Hot working	good		
Hot working temperature	750-870°C	There is a risk of stress corrosion cracking (SCC) in case of concurrent presence of mechanical stress and corrosive media (in particular ammoniac atmosphere).	
Connecting			
Resistance welding	good		
Shielded welding	average		
Brazing	good		
Soldering	very good		
Surface treatment			
Mechanical polishing	very good		
Electrolytic polishing	good		
Galvanisation	very good		
Tin coating	very good		

OTTO FUCHS KG

Derschlager Straße 26
D-58540 Meinerzhagen
Telefon +49 2354 73-0
Telefax +49 2354 73 - 201
info@otto-fuchs.com
www.otto-fuchs.com

OTTO FUCHS Oberflächentechnik GmbH

Poststrasse 57-59
D-71229 Leonberg
Telefon +49 7152 94 02 - 0
Telefax +49 7152 94 02 - 88
info@otto-fuchs-oberflaechentechnik.com
www.otto-fuchs-oberflaechentechnik.com

**OTTO FUCHS Hungary Sales department
c/o OTTO FUCHS KG**

Derschlager Straße 26
D-58540 Meinerzhagen, Germany
Telefon +49 2354 73 316
Telefax +49 2354 73 241
info@otto-fuchs.com
www.otto-fuchs.com

OTTO FUCHS Technology (Shenyang) Co., Ltd.

No. 26 Purong Road
Shenbei New District
Shenyang, P. R. China, 110164
info@otto-fuchs.cn
www.otto-fuchs.cn

Schüco International KG

Karolinenstraße 1-15
D-33609 Bielefeld
Telefon +49 521 783 - 0
Telefax +49 521 783- 451
info@schueco.de
www.schueco.de

Weber Metals Inc.

16706 Garfield Avenue
Paramount CA 90723/USA
Telefon +1-562 602-0260
Telefax +1-562 602-0468
wmi@webermetals.com
www.webermetals.com

Foxtec-Ikhwezi (Pty) Ltd.

1 De Wet Road, West Bank
East London, 5218 East London, Südafrika
Telefon +27 (043) 7033500
Telefax +27 (043) 7033515
info@foxtec.org
www.foxtecikhwezi.co.za



**OTTO FUCHS
Dülken GmbH & Co. KG**



Heiligenstraße 70
41751 Viersen

Telefon +49 2162 956-6
Telefax +49 2162 956-762

duelken@otto-fuchs.com
www.otto-fuchs-duelken.com

