

Alloy Designation	
EN	CuMgP
DIN	CuMg
UNS	C18665
JIS	/

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Chemical Composition		
Cu	min. 99	%
Mg	0.4-0.9	%
P	0.002-0.04	%

Characteristics
C18665 is a high-magnesium Cu–Mg solid-solution strengthened alloy that offers elevated strength with good electrical conductivity and formability. It provides excellent stress-relaxation, stress-corrosion cracking resistance and fatigue performance, is compatible with Reflow-Tin plating (good surface quality and whisker resistance), and is free of heavy metals (Cd, Hg, Pb) with reliable solderability and plateability.

Main Applications
Automotive terminals relays Busbar for junction box
Contacts terminal blocks
High-voltage terminals in EVs and PHEVs
semiconductor components

Physical Properties (Reference values at room temperature)		
Density	g/cm ³	8.8
Electrical conductivity	IACS%(20°C)*	62
Modulus of elasticity	KN/mm ²	126
Coefficient of thermal expansion	10 ⁻⁶ /K	17.3
Thermal conductivity	W/(m*K)	265

*value for the lowest temper class

Mechanical Properties							
TEMPER		Tensile Strength Mpa	Yield Strength Mpa	Elongation %	Hardness Hv	Bending Test(90°) GW BW	
H01	R380*	365 - 460	min. 300	min. 14	90- 145	0	0
H02	R460*	420 - 520	min. 370	min. 10	120 - 170	0.5	1
H04	R520*	480 - 570	min. 440	min. 7	150 - 190	1	2.5
H06	R570*	540 - 630	min. 490	min. 5	170 - 210	2.5	5
H08	R620*	min. 590	min. 540	—	min. 180	3	6

* indicates that the temper class is included

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