

ALUMINIUM PROPERTIES



CHEMICAL COMPOSITION

Alloy designation	Chemical formula	Si	Fe	Cu	Mn	Mg	Ni	Zn	Sn	Ti	Pb	Cr	Equivalent grades
EN AC 43400 (DIN 239 D)	AlSi10Mg(Fe)	9.0-10.0	1.0 max	0.1 max	0.55 max	0.2-0.5	0.15 max	0.15 max	-	0.2 max	0.15 max	-	ADC 3, A360.0.
EN AC 44300 (DIN 230 D)	AlSi12(Fe)	10.5-13.5	1.0 max	0.1 max	0.55 max	-	-	0.15 max	0.05 max	0.15 max	-	-	413.0., LM6
EN AC 46000 (DIN 226 D)	AlSi9Cu3(Fe)	8.0-11.0	1.3 max	2.0-4.0	0.55 max	0.05-0.55	0.55 max	1.2 max	0.25 max	0.25 max	0.35 max	0.15 max	ADC 12, 383.0., LM6
EN AC 47100 (DIN 231 D)	AlSi12Cu1(Fe)	10.5-13.5	1.3 max	0.7-1.2	0.55 max	0.35 max	0.3 max	0.55 max	0.1 max	0.2 max	0.2 max	0.1 max	ADC 1, A384, LM20
EN AC 43500 (SILAFONT-36)	AlSi10MgMn	9.5-11.5	0.15	0.03	0.5-0.8	0.1-0.5	-	0.1 max	-	0.15 max	-	-	-

MECHANICAL PROPERTIES

Properties	Tensile strength R _m (F)	Yield strength Rp _{0.2} (F)	Brinell hardness HBS (F)	Elongation (F)
Units	N / mm ²	N / mm ²	kg / mm ²	%
EN AC 43400 (DIN 239 D)	240-300	140-200	70-100	1.0-3.0
EN AC 44300 (DIN 230 D)	240-280	130-180	60-100	1.0-3.0
EN AC 46000 (DIN 226 D)	240-310	140-240	80-120	0.5-3.0
EN AC 47100 (DIN 231 D)	240-300	140-200	70-100	1.0-3.0
EN AC 43500 (SILAFONT-36)	250 - 290	120 - 150	75-95	5.0 - 10.0

MECHANICAL AND PHYSICAL PROPERTIES

Properties	Density	Machinability	Resistance to corrosion	Thermal conductivity	Electrical conductivity	Thermal expansion
Units	g / cm ³			W /(mK)	MS/m	20-200°C
EN AC 43400 (DIN 239 D)	2.65	Good	Satisfactory	130-150	16-21	21 * 10 ⁻⁶
EN AC 44300 (DIN 230 D)	2.65	Satisfactory	Satisfactory	130-160	16-22	20 * 10 ⁻⁶
EN AC 46000 (DIN 226 D)	2.75	Good	Poor	110-120	13-17	21 * 10 ⁻⁶
EN AC 47100 (DIN 231 D)	2.65	Satisfactory	Satisfactory	120-150	15-20	20 * 10 ⁻⁶
EN AC 43500 (SILAFONT-36)	2.64	Good	Good	140-170	21-26	21 * 10 ⁻⁶

ZINC PROPERTIES



CHEMICAL COMPOSITION

Alloy designation	Chemical Formula	Al	Mg	Cu	Pb	Cd	Sn	Fe	Ni	Si	
DIN 1743 (Z410) (ZAMAK5)	ZnAl4Cu1	3.8-4.2	0,035 - 0,06	0.7-1.1	0.003	0.003	0.001	0.02	0.001	0.02	

MECHANICAL PROPERTIES

Properties	Tensile strength R_m	Yield strength $R_{p\ 0.2}$	Brinell hardness HBS	Elongation
Units	N / mm ²	N / mm ²	kg / mm ²	%
DIN 1743 (Z410) (ZAMAK5)	280-350	220-250	85-105	2.0-5.0

MECHANICAL AND PHYSICAL PROPERTIES

Properties	Density	Machinability	Resistance to corrosion	Thermal conductivity	Electrical conductivity	Thermal expansion
Units	g / cm ³	-	-	W / (mK)	MS/m	20-100°C
DIN 1743 (Z410) (ZAMAK5)	6.7	Good	Very good	92-105	15-16	27 * 10 ⁻⁶