

ROLEC Gehäuse-Systeme GmbH

Technical data for die cast aluminium series aluKOM

Chemical composition and mechanical characteristics according to DIN EN 1706

Designation of the die cast aluminium alloy			
Group of alloys:	ALSi		
Structural material symbol:	GD-ALSi12 (DIN 1725)	EN AC-44300 (DIN EN 1706)	
Chemical composition of mass proportions in %			
Silicium	(Si)	10,5 – 13,5	
Iron, pure	(Fe)	1,0 (0,45 – 0,9)	
Copper	(Cu)	0,1 (0,08)	
Manganese	(Mn)	0,55	
Magnesium	(Mg)	--	
Chromium	(Cr)	--	
Nickel	(Ni)	--	
Zinc	(Zn)	0,15	
Lead	(Pb)	--	
Tin	(Sn)	--	
Titanium	(Ti)	0,15	
Further additions		0,25	
Aluminium	(Al)	Rest	
Mechanical characteristics			
Tensile strength	R_m	Mpa min.	240
Permanent elongation limit	$R_{p0,2}$	Mpa min.	130
Breaking elongation	A_{50mm}	% min.	1
Brinell hardness	HBS	min.	60
Solidity at ambient temperature			good
Solidity till 200 °C			acceptable
Impact strength (ductility)			acceptable
Fatigue resistance	Mpa^9 - Mpa^{10}		60 – 90
Further characteristics			
Thermal conductivity	W/(m · K)	130 - 160	
Electric conductivity	MS/m	16 - 22	
Longitudinal elongation coefficient	$10^{-6}/K$	293K – 373K	20

Enclosures for die cast aluminium				
AK060 / AK061	AK062	AK063	AK081	AK082
AK083	AK084	AK120	AK121	AK122
AK123	AK124	AK161	AK162	AK163
AK231	AK232	AK233	AK234	AK311

ROLEC Gehäuse-Systeme GmbH

Technical data for gravity cast aluminium series aluKOM

Chemical composition and mechanical characteristics according to DIN EN 1706

Designation of the gravity cast aluminium alloy			
Group of alloys:	ALSi		
Structural material symbol:	GK-ALSi12 (DIN 1725)	EN AC-44200 (DIN EN 1706)	
Chemical composition of mass proportions in %			
Silicium	(Si)	10,5 – 13,5	
Iron, pure	(Fe)	0,55 (0,40)	
Copper	(Cu)	0,05 (0,03)	
Manganese	(Mn)	0,35	
Magnesium	(Mg)	--	
Chromium	(Cr)	--	
Nickel	(Ni)	--	
Zinc	(Zn)	0,10	
Lead	(Pb)	--	
Tin	(Sn)	--	
Titanium	(Ti)	0,15	
Further additions		0,15	
Aluminium	(Al)	Rest	
Mechanical characteristics			
Tensile strength	R_m	Mpa min.	170
Permanent elongation limit	$R_{p0,2}$	Mpa min.	80
Breaking elongation	A_{50mm}	% min.	6
Brinell hardness	HBS	min.	55
Solidity at ambient temperature			insufficient
Solidity up to 200 °C			acceptable
Impact strength (ductility)			excellent
Fatigue resistance	$Mpa^9 - Mpa^{10}$		60 – 90
Further characteristics			
Thermal conductivity	W/(m · K)	140 - 170	
Electric conductivity	MS/m	17 - 24	
Longitudinal elongation coefficient	$10^{-6}/K$	293K – 373K	20

Enclosures for gravity cast aluminium

AK164

AK235

AK312