ROLEC Gehäuse-Systeme GmbH

Technical data for gravity cast aluminium series aluNORM

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 aluminium gravity cast		
AS/AF/AD/AH 166	AS/AF/AD/AH 240	AS/AF/AD/AH 242
AS/AF/AD/AH 244	AS/AF/AD 322	AS/AF/AD 324