

Approved by NTCRM

National Technical Committee on Reference Materials

Certificate Of Reference Materials

P/N: 58A Al-356Z.4

Category: Aluminium Alloy

Certified date: June 2022

Verified date:

Form: Disc

size: D 58x35mm

Provided By DHJ Analysis Co., Ltd

Preparation

1. Make ingot casting block in size of $\Phi 60 \times 6000$ mm with designed chemistry composition.
2. Discard both ends of above blocks by length of 20-30mm, and take three pieces to do the metallographic analysis, component variation analysis and chemistry composition analysis.
3. After removing upper 5mm peel, make the ingot casting to bar of DIA58mm. and cut it to discs of the size: $\Phi 58 \times 35$ mm. Number every DISC and test the homogeneity by sampling inspection. After that clean the surfaces and keep them.
4. Chip the disc, and analyze chemistry of the chips. Collect the data, analyze it, and test the stability.

Certified Values

(Analysis listed as percentage by weight)

P/N		Si	Fe	Cu	Mn	Mg	Cr	Ni
58A Al- 356Z.4	Cert.Value	7.00	0.119	0.025	0.051	0.319	0.021	0.0060
	Exp. Uncert.	0.05	0.004	0.001	0.001	0.005	0.001	0.0003
		Zn	Ti	Pb	Sn	Sr	Ca	
	Cert.Value	0.058	0.146	0.011	0.0078	0.024	0.0029	
	Exp. Uncert.	0.002	0.004	0.001	0.0003	0.001	0.0002	

Note: Above values are from 8 sets of data
Exp.Uncert. means Expanded Uncertainty.

Analysis Method used

Si	ICP-AES ;Molybdenum blue photometric method ;
Fe	ICP-AES ;Phenanthroline photometric method ;
Cu	ICP-AES ;AAS method ;
Mn	ICP-AES ;AAS method ;Potassium periodate photometric method ;
Mg	ICP-AES ;AAS method ;
Cr	ICP-AES ;AAS method ;
Ni	ICP-AES ;AAS method ;
Zn	ICP-AES ;AAS method ;
Ti	ICP-AES ;Photometric method with diantipyrylmethane ;
Pb	ICP-AES ;AAS method ;
Sn	ICP-AES ;Henyflfluorone photometric method ;
Sr	ICP-AES ;AAS method ;
Ca	ICP-AES ;AAS method ;

Homogeneity and Stability

- 1.This Reference Material has been proved good at homogeneity by Range method.
2. This Reference Material is to be stable at least for 15 years if it is stored in dry and clean places at a room temperature.

Traceability

All original data came from 8 labs.

All measurement units use International System Unit

All Reference Materials used in the certified process are traceable CRM.

Package, usage and storage

This Reference Material is formed in disc. It should be stored in dry, ventilated and clean places.

This Reference Material should be peeled and cleaned before using.

Participation:

China Heavy Industry Group 12th Institute

National Light Metal Institute QA Center

National Aluminum Loyang Co.

Shandong Metallurgical Study Institute

Dongbei Light Metal Co.,

Shanghai Nonferrous Metal Industry Technology Monitoring Center Co., Ltd

Beijing Non-Ferro Metal Institute

Zhengzhou Light Metal Institute

A handwritten signature in black ink, appearing to be 'J. M.', written in a cursive style.

Technical Manager