



WIRE, NICKEL ALLOY

WSS-M4A181-A

1. SCOPE

The material defined by this specification is a nickel-aluminum alloy wire.

2. APPLICATION

This material was originally released as feed wire for the bond coat of a two-coat system for thermally sprayed cylinder bores in aluminum cylinder blocks.

3. REQUIREMENTS

3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.2 CHEMICAL COMPOSITION

(Weight Percent)

Nickel	93.00 min
Aluminum	4.00 – 4.75
Silicon	1.00 max
Titanium	0.25 – 1.00
Others (Each)	0.60

3.3 WIRE DIAMETER, mm

1.6

3.4 PHYSICAL PROPERTIES

3.4.1	Density	8.25 g/cc
3.4.2	Melting Point	1438 °C
3.4.3	Coefficient Of Thermal Expansion	13.0 µm/mK
3.4.4	Thermal Conductivity	23.8 W/mK

3.5 QUALITY

Wire shall be uniform in quality and condition, clean, and free from kinks, twists, scrapes, splits, pipes, cold shuts and other injurious imperfections.

The surface shall have a smooth finish, free from pits, abrasions and other injurious surface imperfections.

Date	Action	Revisions
2003 09 30	Revised	Para 3.0 inserted; para 3.1, 3.6 and 4 deleted
2000 08 04	Activated	



Documents

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Document Sharing Hub



5. GENERAL INFORMATION

The information given below is provided for clarification and assistance in meeting the requirements of this specification.

5.1 REFERENCE DOCUMENTS

The following documents are referenced in this specification:

WSS-M99P1111-A