Society of Automotive Engineers, Inc.
TWO PENNSYLVANIA PLAZA, NEW YORK, N.Y. 10001

AEROSPACE MATERIAL SPECIFICATION

AMS 4677

Issued 5-1-70
Revised

NICKEL-COPPER ALLOY BARS AND FORGINGS, CORROSION RESISTANT
66.5Ni - 2.9Al - 30Cu

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.

2. FORM: Bars, forgings, and forging stock.

3. APPLICATION: Primarily for parts requiring moderate strength, resistance to corrosion, and where very good machinability is required.

4. COMPOSITION:

	min	max
Nickel + Cobalt	63.0 -	70.0
Cobalt (1)	--	1.0
Aluminum	2.3 -	3.5
Iron	--	2.0
Manganese	--	1.5
Silicon	--	0.5
Titanium	--	0.5
Carbon	--	0.10
Phosphorus (1)	--	0.02
Zinc (1)	--	0.02
Sulfur	--	0.010
Lead (1)	--	0.006
Tin (1)	--	0.006
Copper	remainder	

(1) Determination not required for routine acceptance.

4.1 Check Analysis: Composition variations shall meet the requirements of the latest issue of AMS 2269.

5. CONDITION: Unless otherwise ordered, the product shall be supplied in the following condition:

5.1 Bars and Forgings: Hot finished and annealed. Round bars shall be ground or turned.

5.2 Forging Stock: As ordered by the forging manufacturer.

6. TECHNICAL REQUIREMENTS:

6.1 Hardness: Bars and forgings shall have hardness not higher than Brinell 185 or equivalent.

6.2 Properties After Precipitation Heat Treatment: Material shall conform to the following requirements after being precipitation heat treated by heating to 1150 F ± 25 (621.1 C ± 14), holding at heat for 2 hr, and furnace cooling to 1050 F ± 25 (565.6 C ± 14), holding for 4 hr, furnace cooling to 950 F ± 25 (510 C ± 14), holding for 4 hr, and cooling in air to room temperature.