

**Ministry of Defence
Defence Procurement Agency, ADRP2
Abbey Wood
Bristol
BS34 8JH**

OBSOLESCENCE NOTICE

All DTD specifications were declared obsolescent from 1st April 1999. All DTD 900 series approvals also lapsed at that time. The standards will no longer be updated but will be retained as obsolescent documents to provide for the servicing of existing equipment.

Further Guidance

The aim in declaring the specifications obsolescent is to recognise that the documents are not being updated and thus should be used with care by both purchaser and supplier. For example, a specification could contain valid technical information but may also contain type approval clauses that contradict procurement policy and/or use materials that do not comply with environmental legislation. The obsolescent specification can still be used as a basis for a purchase provided that the supplier and purchaser agree suitable changes to the specification within the purchase order/contract.

For the DTD 900 system, each specification has provided an MoD approved material and process. For these items, the declaration of obsolescence will constitute the termination of both the extant MoD approval and the continuing MoD assessment that had underpinned those approvals. Again, the technical content of the document remains valid and can be used by both purchaser and supplier as a basis for a contract but an acceptable (to the parties) approval/assessment procedure would be required.

Aerospace Material Specification
NICKEL-CHROMIUM-COBALT-ALUMINIUM-TITANIUM
HEAT-RESISTING WIRE
(not exceeding 2mm diameter)
(Suitable for locking wire)

NOTE: This specification is one of a series issued by the Procurement Executive, Ministry of Defence to meet a requirement not covered by an existing British Standard for aerospace material.

1. INSPECTION AND TESTING PROCEDURE

This specification shall be used in conjunction with British Standard HR.100, Sections 1 and 7.

2. MANUFACTURE

Unless otherwise agreed, the material shall be manufactured by one of the following processes:

- (1) Induction melted, vacuum refined and cast in air.
- (2) Consumable electrode remelted.

3. CHEMICAL COMPOSITION

The chemical composition of the material shall be:

Element	Per cent	
	Minimum	Maximum
Carbon	-	0.13
Silicon	-	1.0
Manganese	-	1.0
Sulphur	-	0.015
Silver	-	0.0005(5ppm)
Aluminium	1.0	2.0
Boron	-	0.020
Bismuth	-	0.0001 (1ppm)
Cobalt	15.0	21.0
Chromium	18.0	21.0
Copper	-	0.2
Iron	-	1.5
Lead	-	0.0020(20ppm)
Titanium	2.0	3.0
Zirconium	-	0.15
Nickel	Remainder	

4. CONDITION

The wire shall be supplied in the fully softened and descaled condition.

5. HEAT TREATMENT

The material shall be heated uniformly at a temperature within the range 1100°C to 1150°C followed by

- 5.1 Wire up to and including 1.6mm diameter or minor sectional dimension shall be heated uniformly at a temperature within the range 1100°C to 1150°C in a protective atmosphere, followed by cooling in a water cooled zone under the same protective atmosphere.
- 5.2 Wire greater than 1.6mm diameter or minor sectional dimension shall be heated uniformly at a temperature within the range 1100°C, to 1150°C, followed by quenching in water.

6. SPECIAL MECHANICAL TESTS

Samples selected in accordance with the requirements of BS.HR.100,7.5.3 shall be taken from wire heat-treated in accordance with clause 5 of this specification and tested as follows:-

- (1) Wrapping test. A test piece, prepared from the sample shall be tested in accordance with BS.HR.100, 1.20.1.3.
- (2) Reverse bend test. A test piece prepared from the sample shall be tested in accordance with BS HR.100, 1.20.1.4 (ignoring the restriction of the test to wires over 2mm diameter) and shall withstand, without cracking, three bends over a former radius equal to three times the diameter of the wire.

7. TOLERANCES ON DIMENSIONS OF WIRE

The following tolerances on diameter shall apply:

Nominal wire diameter	Tolerance
mm	mm
0.50	± 0.04
0.80	± 0.04

Approved for issue,

N. L. PARR,

Director of Research Materials.

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