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Enclosure (1) to  
MAO-M6- 123U

IC-24244 (SHIPS)  
Interim Change No. 1  
21 April 1976

PROPOSED: NOT TO BE USED FOR PROCUREMENT

**MILITARY SPECIFICATION  
INSULATION MATERIALS, THERMAL, WITH SPECIAL  
CORROSION AND CHLORIDE REQUIREMENT**

This interim change, when specified in contract documents, forms a part of MIL-I-24244A (SHIPS), 12 February 1974.

Page 1, Paragraph 1.1, Delete and substitute:

"1.1 Scope. This specification covers asbestos-free thermal insulation, cement and adhesives and asbestos-containing thermal insulation tape - all with special corrosion and chloride requirements."

Page 1, Paragraph 1.2, Delete and substitute:

"1 2 Types. The insulation material shall be of the following types and subtypes as specified (see 6.2).

Type 1 - Insulation, pipe, thermal (MIL-I-2781).

Type 2 - Insulation blanket, thermal, fibrous mineral (MIL-I-2818).

Type 3 - Insulation block, thermal (MIL-I-2819).

3B Class 2 - Temperatures up to 1200° Fahrenheit (°F).

3D Class 3 - Temperatures up to 1500°F.

Type 4 - Cement, insulation, high temperature (MIL-C-2861).

Type 5 - Cements, insulation, thermal (SS-C-160, type III, grade P, finishing cement).

Classification (canceled)(changed to  
Unclassified) by authority of  
NAVSEA  
on 2/2/04 for MIL-STD-1000 Security Spec.  
(Date) (Signature) (Rank)  
NAVAL SEA SYSTEMS COMMAND  
Department of the Navy

Additional copies of this document may be obtained from the contract issuing agency.

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Type 6 - Adhesives, fire resistant, thermal insulation  
(MIL-A-3316).

6A - Class 1 - For bonding fibrous glass cloth to unfaced fibrous glass insulation. For bonding cotton brattice cloth to faced and unfaced fibrous glass insulation board. For sealing the edges of, and bonding fibrous glass tape to the joints of, fibrous glass board. For bonding lagging cloth to thermal insulation.

6B - Class 2 - For attaching fibrous glass insulation to metal surfaces.

6C - Class 3 - For attaching cork and fibrous glass insulation board to metal surfaces.

Type 10 - Insulation felt, thermal, glass fiber  
(MIL-I-16411).

10A- Type I - Felted rovings

10B- Type II - Laminated and felted.

Type 11 - Insulation blanket, thermal, refractory fiber, flexible (MIL-J-23128).

11A- Grade A - Temperatures up to 1200°F.

11B- Grade B- Temperatures up to 2000°F.

Type 14 - Cloth, thread and tape-asbestos (SS-C-466).

14P- Form IV, tape, grade U.G., Style 1 - plain weave.

Type 16 - Insulation, Blocks, Boards, Blankets, Felts, Sleeving (Pipe and Tube Covering), and Pipe Fitting Covering, Thermal (Mineral Fiber, Industrial Type) (HH-I-558).

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- Type 16A- Form A, rigid, class 2.  
16B- Form A, rigid, class 3.  
16C- Form A, rigid, class 4.  
16D- Form A, rigid, class 5.  
16E- Form B, type II, class 9.  
16F- Form C, class 10.  
16G- Form C, class 11.  
16H- Form D, type III, class 12.  
16I- Form D, type IV, class 14.  
16J- Form D, type IV, class 15.
- ✓ Type 17 - Cloth, Glass; Tape, Textile Glass; and  
Thread, Glass (MIL-C-20079).
- 17A- Type I, class 3.  
17B- Type I, class 4.  
17C- Type I, class 5.  
17D- Type I, class 6.  
17E- Type I, class 7.  
17F- Type I, class 8.  
17G- Type I, class 9.  
17H- Type I, class 10."

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Page 2, Paragraph 2.1

# SPECIFICATIONS

## MILITARY

Delete: "MIL-T-4117 - Tape, Asbestos"

Delete: "MIL-I-15349 - Insulation Tape, Thermal"

Add: "MIL-C-20079 - Cloth, Glass; Tape, Textile  
Glass; and Thread, Glass"

Page 3, Paragraph 2.2

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

Delete: "ASTM Bulletin No. 225, TP 196, dated  
October 1957

(Xerographic or microfilm copies of 'Technical  
Paper TP 196 from ASTM Bulletin No. 225 are  
available from University Microfilms, Inc.,  
Article Reprints, Ann Arbor, Michigan 48106)."

Add: "ASTM Bulletin No. 225, October 1957 'Stress  
Corrosion Cracking of Insulated Austenitic  
Stainless Steel', A. W. Dana, Jr., pp. 46-52.

(Xerographic or microfilm copies of 'Stress  
Corrosion Cracking of Insulated Austenitic  
Stainless Steel' are available from University  
Microfilms, Inc., Article Reprints, 300 North  
Zeeb Road, Ann Arbor, Michigan 48106."

Page 6, Paragraph 4.2.4.1.2 - Delete the last sentence and  
substitute:

"4.2.4.1.2.1 Leachant from all insulation materials except  
rewettable fiber glass cloth. Approximately 150 ml of  
solution "A", from which aliquots for the sodium and silicate  
tests are to be taken, shall be refiltered through a 0.45  
millipore filter.

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4.2.4.1.2.2 Leachant from rewettable fiber glass cloth.  
To approximately 150 ml of solution "A" add sufficient concentrated nitric acid dropwise to make the solution just acidic to pH paper, bring the temperature of the solution just to the boiling point for a few minutes, allow the flocculated material to settle to the bottom of the container and filter the solution through prewashed No. 41 Whatman or equal filter. The filtrate shall be used for the chloride, silicate and sodium tests. pH shall be determined on an aliquot of solution "A" to which no nitric acid was added.

Page 6, last paragraph, line 1:

Delete: "4.2.4.2"

Substitute: "4.2.4.2.2"

Page 8, Paragraph 4.3.1.1, line 3

Delete ", TP 196,"

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