

MILITARY SPECIFICATIONS

<u>Number</u>	<u>Title</u>
MIL-C-2861 D	Cement, Insulation, High Temp (1800° F)
MIL-C-2908 A	Cement, Finishing, Insulation Type I -- Asbestos (300° F) Type II -- Hydraulic Setting, Mineral Wool (1200° F)
MIL-I-742 C	Insulation Board, Thermal, Glass Type I -- Fibrous Glass Cloth Faced Board Type II -- Unfaced Board (3pcf)
MIL-Y-2781 D	Insulation, Pipe, Thermal, Preformed Grade I - To 600° F Class b - Compounded Grade II - To 750° F Class c - Class d - Compounded Grade III - To 1200° F Class e - Compounded Type I - Light Density Type II - Heavy Density Class f -
MIL-I-2818 B	Insulation Blanket, Thermal Fibrous Mineral
MIL-I-2819 E	Insulation Block, Thermal Class I - To 600° F Class II - To 1200° F Class III - To 1500° F Class IV - To 2000° F
MIL-I-7171 C	Insulation Blanket, Thermal, Acoustical
MIL-I-8776 A	Insulation Blanket, Thermal Aircraft Gas Turbine Engine
MIL-I-14511	Insulation Sheet, Cellular Plastic, Thermal
MIL-I-15091 C	Insulation Felt, Thermal Asbestos Fiber
MIL-I-15475 C	Insulation Felt, Thermal, Fibrous Glass, Semi Rigid (3.0 pcf)

Number	Title
MIL-I-16411 D	Insulation Felt, Thermal, Glass Fiber Type I - Felted Rovings Type II - Laminated and Felted
MIL-I-16562	Insulation, Synthetic, Rubberlike Cellular (Sheet Form)
MIL-I-16688 C	Insulation Felt, Thermal, Fibrous Mineral (Semi-Rigid) (Light Weight)
MIL-I-22023 C	Insulation Felt, Thermal and Sound Absorb- ing, Fibrous Glass, Flexible (400°F) Type I - Thermal Insulation Felt Type II - Sound Absorbing Felt Class 2 - 0.75pcf Density Class 3 - 1.0 pcf Density Class 4 - 1.5 pcf Density Class 5 - 2.0 pcf Density Class 6 - 3.0 pcf Density
MIL-I-22344 B	Insulation Pipe, Thermal, Fibrous Glass (370° F)
MIL-I-23128 A	Insulation Blanket, Thermal, Refractory Fiber, Thermal Grade A - To 1200° F Grade B - To 2000° F
MIL-I-24172	Insulation, Plastic, Cellular, Polyurethane, Rigid, Preformed and Foam in Place Type I - Preformed Class 1 - 1.7 to 2.5 pcf Density Class 2 - 2.5 to 4.0 pcf Density Type II - Foam in Place Class 1 - 1.7 to 2.5 pcf Density Class 2 - 2.5 to 4.0 pcf Density
MIL-I-24244	Insulation Materials, Thermal, with Special Corrosion and Chloride Requirements Type I - Insulation Pipe, Thermal (MIL-I-2781) 1A - Grade I, Class b, Compounded, 600° F 1B - Grade II, Class c, Fibrous, 750° F 1C - Grade II, Class d, Compounded, 750° F 1D - Grade III, Class e, Compounded Type I, Light Density, 1200° F 1E - Grade III, Class e, Compounded Type II, Heavy Density, 1200° F

Number	Title
	1F - Grade III, Class f, Fibrous, 1200° F
Type 2	- Insulation Blanket, Thermal Fibrous Mineral (MIL-I-2818)
Type 3	- Insulation Block, Thermal (MIL-I-2819)
3A	- Class 1, to 600° F
3B	- Class 2, to 1200° F
3C	- Class 3, to 1500° F
3D	- Class 4, to 2000° F
Type 4	- Cement, Insulation, High Temp (MIL-C-2861)
Type 5	- Cements, Finishing, Insulation (MIL-C-2908)
5A	- Type I, Asbestos
5B	- Type II, Hydraulic Setting Mineral Wool
Type 6	- Adhesives, Fire Resistant (MIL-A-3316)
Type 7	- Insulation Felt, Thermal, Asbestos Fiber (MIL-I-15091)
Type 8	- Adhesive, Asbestos Cloth to Pipe (MIL-A-15199)
Type 9	- Insulation Tape, Thermal (MIL-I-15349)
Type 10	- Insulation Felt, Thermal, Glass Fiber (MIL-I-16411)
Type 11	- Insulation Blanket, Thermal Refractory Fiber (MIL-I-23128)
Type 12	- Superseded by Type 16
Type 13	- Superseded by Type 16
Type 14	- Cloth, Threat and Tape, Asbestos (SS-C-466)
Type 15	- Tape, Asbestos (MIL-T-4117)
Type 16	- Insulation, Blocks, Boards, Blankets, Felts, Sleeving (Pipe and Tube Covering) and Pipe Fitting Covering Thermal (Mineral Fiber Industrial Type) (HH-I-558)
MIL-P-12420 B	Plastic Material, Cellular, Elastomeric
MIL-P-15280 E	Plastic Material, Unicellular (Sheets & Tubes) Form T - Tubular Form S - Sheet
MIL-P-19644 A	Plastic Foam, Molded Polystyrene (Expanded Bead Type)

<u>Number</u>	<u>Title</u>
MIL-P-21929 A	Plastic Material, Cellular, Polyurethane, Rigid, Foam-In-Place, Low Density
MIL-P-40619	Plastic Material, Cellular, Polystyrene

ASTM SPECIFICATIONS

<u>Number</u>	<u>Title</u>
C 193	Magnesia Thermal Insulating Cement (600° F)
C 194	Asbestos Thermal Insulating and Finishing Cement (1000° F)
C 195	Mineral Fiber Thermal Insulating Cement (1800° F)
C 196	Expanded or Exfoliated Vermiculite Thermal Insulating Cement (1800° F)
C 197	Diatomaceous Silica Thermal Insulating Cement (1900° F)
C 208	Structural Insulating Board Made From Vegetable Fibers
C 262	Mineral Fiber Batt Insulation (Industrial Type) (1200° F)
C 298	Cellular Asbestos Paper Thermal Insulation For Pipes (300° F)
C 299	Laminated Asbestos Thermal Insulation for Pipes (300° F)
C 391	Amosite Asbestos Thermal Insulation For Pipes (2100° F)
C 449	Mineral Fiber Hydraulic Setting Thermal Insulating And Finishing Cement (1200° F)
C 489	85 Percent Magnesia Block and Pipe Thermal Insulation (600° F)
C 516	Vermiculite Loose Fill Insulation (1400° F)
C 517	Diatomaceous Earth Block and Pipe Thermal Insulation Class I - Use up to 1600° F Class II - Use Up to 1900° F
C 532	Structural Insulating Form Board Made From Vegetable Fibers

<u>Number</u>	<u>Title</u>
C 533	Calcium Silicate Block and Pipe Thermal Insulation Type I - Use Up to 1200° F Type II - Use Up to 1800° F
C 534	Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form (200° F) Type I - Tubular Type II - Sheet
C 547	Mineral Fibert Preformed Pipe Insulation (370° F)
C 549	Perlite Loose Fill Insulation (1400° F)
C 552	Cellular Glass Block and Pipe Thermal Insula- tion (800° F)
C 553	Mineral Fiber Blanket and Felt Insulation (Industrial Type) (400° F) Type I - Resilient, Flexible Class B-1 0.65 pcf Class B-2 0.75 pcf Class B-3 1.0 pcf Class B-4 1.5 pcf Class B-5 2.0 pcf Class B-6 3.0 pcf Type II - Flexible Class F-1 4.5 pcf Max. Type III - Semi-Rigid Class F-2 4.5 pcf
C 578	Preformed Block-Type Cellular Polystyrene Thermal Insulation (170° F)
C 591	Rigid Preformed Cellular Urethane Thermal Insulation (230° F)
C 592	Mineral Fiber Blanket Insulation and Blanket Type Pipe Insulation (Metal Mesh) (Industrial Type) Class I - Use Up to 1000° F Class II - Use Up to 1200° F
C 610	Expanded Perlite Block and Pipe Thermal Insu- lation (1500° F)

<u>Number</u>	<u>Title</u>
C 612	Mineral Fiber Block and Board Thermal Insulation
	Class 1
	Class A-1 Use Up to 400° F
	Class 2
	Class A-2 Use Up to 400° F
	Class 3
	Class B Use Up to 850° F
	Class C Use Up to 1000° F
	Class D Use Up to 1800° F
C 640	Cork Board and Cork Pipe Insulation For Low Temperature Thermal Insulation (180° F)

FEDERAL SPECIFICATIONS

<u>Number</u>	<u>Title</u>
HH-B-100a	Barrier Material Vapor (Fire Retardant, Reinforced For Pipe and Duct Insulations, Low Temperatures) Type I, Low Vapor Transmission Type II, Medium Vapor Transmission Type III, High Vapor Transmission
HH-I-515a	Insulation Batt, Thermal; Insulation Blanket Thermal; and Insulation Thermal; Cellulose Vegetable and Wood Fiber
HH-I-521d	Insulation Blankets, Thermal (Mineral Fiber, For Ambient Temperature) Type I, Blankets, No Facing Type II, Blankets, Non Reflective Type III, Blankets, Oneside, Reflective Facing
HH-I-523c	Insulation Block and Pipe Covering, Thermal (Calcium Silicate For Temps. up to 1200° F) Type I, Block Type II, Pipe Insulation Class A, Uncovered Class B, Canvas Class C, Aluminum Class D, Kraft-Aluminum Foil Class E, Dual Temp Class F, Other
HH-I-524a	Insulation Board, Thermal (Polystyrene)
HH-I-525a	Insulation Board, Thermal, Cork

<u>Number</u>	<u>Title</u>
HH-I-526c	Insulation Board, Thermal (Mineral Fiber)
HH-I-528b	Insulation Batts and Blankets, Thermal (Vegetable Fiber)
HH-I-529b	Insulation Board, Thermal (Mineral Aggregate)
HH-I-00530	Insulation Board, Thermal (Urethane) Type I, Preformed Class 1, Less Than 1.7 PCF Class 3, 1.7 to 2.5 PCF Type II, Preformed, Self Extinguishing Class 1, Less Than 1.7 PCF Class 2, 1.7 to 2.5 PCF Class 3, 2.5 to 4.0 PCF Type III, Preformed, Non Burning Class 1, Less Than 1.7 PCF Class 2, 1.7 to 2.5 PCF Class 3, 2.5 to 4.0 PCF
HH-I-542*	Insulation, Felt, Thermal, Mineral Wool (For Low Temperatures) Type I, Flexible Type II, Semi-Rigid
HH-I-00545a	Insulation, Thermal And Acoustical (Mineral, Fiber, Duct Lining Material) Type I, Flexible, Flat (1.35 to 3.3 PCF Density) Type II, Rigid, Semi-Rigid, Flat (2.7 to 8.3 PCF Density)
HH-I-00545a	Type III, Rigid, Semi-Rigid, Cylindrical (2.7 to 8.3 PCF Density)

<u>Number</u>	<u>Title</u>
HH-I-550a	Insulation Sleeving, Thermal (Urethane) Type I, Preformed, Self Extinguishing Type II, Preformed, Non Burning
HH-I-551d	Insulation Block, Pipe Covering and Boards, Thermal (Cellular Glass) Type I - Blocks Type II - Pipe and Tubing Type III - Special Shapes Type IV - Roof Boards
HH-I-552*	Insulation Pipe Covering, Thermal and Insula- tion Blanket, Thermal, Pipe Covering Type I, Molded Class A, to 250° F (3.5 Oz. Canvas) Class B, to 350° F (3.5 Oz. Canvas) Type II, Blanket (To 1000° (Exp. Metal Lath or 1-Inch Wire Mesh)
HH-I-554a	Insulation, Thermal, Magnesia: Block, Pipe and Tubing
HH-I-557	Insulation, Pipe, Valve and Fitting Covering, Thermal Cork
HH-I-558a	Insulation, Blocks, Boards, Blankets, Felts, Sleeving (Pipe and Tube Covering) and Pipe Fitting Covering, Thermal (Mineral Fiber, In- dustrial Type) Form A, Block and Board, Rigid, Semi-Rigid Class 1, Below Amb. to 400° F, Non-Load Bearing Class 2, Below Amb. to 400° F Load Bearing Class 3, to 850° F

Number	Title
	Class 4, to 1000° F
	Class 5, to 1800°
	Form B, Blankets, Felts, Flexible Type 1, Blankets, Flexible
	Class 6, Resilient, Blow Amb. to 350° F
	Designation, Fine Fiber or Textile Fiber
	B-1 0.65 PCF
	B-2 0.75 PCF
	B-3 1.0 PCF
	B-4 1.5 PCF
	B-5 2.0 PCF
	B-6 3.0 PCF
	Class 7, to 450° F
	Class 8, to 1000° F
	Type II, Felts
	Class 9, to 1200° F
	Form C, Blankets, Metal Mesh Covered
	Class 10, to 1000° F
	(Asbestos, For Temps Up to 1200° F)
	Class 11, To 1200 F
	Form D, Pipe & Tube Covering
	Type III, Molded
	Class 12, Below Amb. To 370° F
	Class 13, To 1000° F
	Type IV, Blanket, Metal Mesh Covered
	Class 14, To 1000° F
	Class 15, To 1200° F
	Form E, Molded Pipe Fitting
	Class 16, Below Amb. To 370° F
	Class 17, To 1000° F
HM-I-00559*	Insulation Thermal (Mineral Fiber For Low Temperature)
	Form A, Block and Board, Rigid
	Type I, Organic Bonded, Load Bearing

<u>Number</u>	<u>Title</u>
	Type II, Organic Bonded, Non Load Bearing
	Form B, Blankets and Felts, Flexible, Semi-Rigid
	Type III, Blankets, Resilient, Flexible
	Type IV, Felts, Semi-Rigid
	Form C, Pipe Insulation
	Type V, Molded
HH-I-561e	Insulation Block and Sleeving, Thermal (Asbestos, For Temps Up to 1200° F) Type I, Corrugated Asb. Paper Class a, 4 Plies/Inch Thickness Class b, 6 Plies/Inch Thickness Class c, 8 Plies/Inch Thickness
	Type II, Indented Asb. Paper (700° F)
	Type III, Fibrous, Solid Type (1200° F) Form 1, Block Form 2, Pipe Covering
HH-I-562*	Insulation Thermal, Mineral Wool, Block or Board and Pipe Insulation (Molded Type) Covering, Molded Low Temperature Type I, Block, Board Class 1, Load Bearing Class 2, Non Load Bearing
	Type II, Pipe Insulation, Molded Class 1, Molded Sectional, Light Duty Class 2, Molded Sectional, Std. Duty Class 3, Molded Sectional, Heavy Duty
HH-I-563*	Insulation, Mineral Wool; Blanket, Felt and Industrial Batt (For Heated Surfaces) Type I, Blanket Class A, to 500° F Class B, to 1000° F Class C, to 1200° F
	Type II, Felt Class D, to 500° F

<u>Number</u>	<u>Title</u>
	Type III, Industrial Batt Class E, to 1000° F Class F, to 1300° F
HH-I-564*	Insulation Mineral Wool, Block and Board (For Heated Surfaces) Form I, Block 12" x 36" Or Smaller Class A, to 225° F Class B, to 500° F Class C, to 1000° F Class D, to 1500° F Form II, Board Larger than 12" x 36" Class A, to 225° F Class B, to 500° F Class C, to 1000° F Class D, to 1500° F
HH-I-567	Insulation; Pipe; Laminated Felt (for Temps, Between 40° and 212° F) 40° F to 212° F
HH-I-570a	Insulation Blanket, Thermal (Asbestos, For Temps up to 1000° F)
HH-I-573b	Insulation Thermal (Flexible Unicellular Sheet and Pipe Covering) Class T, Tubular - 100° F to +200° F Class S, Sheet - 100° F to +200° F
HH-I-574a	Insulation, Thermal (Perlite)
HH-I-578b	Insulation, Pipe Covering and Block, Thermal, Vermiculite Type I, Standard Thickness Type II, Double Standard Thickness Type III, Solid Thickness Type IV, Block

Number	Title	
HH-I-585b	Insulation, Thermal (Vermiculite) Type I, Extra Coarse Type II, Coarse Type III, Fine Type IV, Extra Fine	
HH-I-1030	Insulation Thermal (Mineral Fiber, For Pneumatic or Poured Application) Type I, Pneumatic Application Class a, Ignition Loss 1% or Less Class b, Ignition Loss 12% or Less Type II, Poured Application Class a, Ignition Loss 1% or Less Class b, Ignition Loss 12% or Less	
HH-I-001084	Insulation Board, Thermal (Asbestos-Cement Fiberboard) Type I, Smooth] Class A, Uncoated Type II, Rippled] Class B, Painted Type III, Granular]	None
HH-I-002152	Insulation, Thermal, Reflective (Alum. Foil) Type I, Single Layer Type II, Two Separated Layers, Edge Joined Type III, Three Separated Layers, Edge Joined Type IV, Four Separated Layers, Edge Joined	
HH-I-001252	Classes A through H, Types of Reinforcing and Composite Materials	
SS-A-118b	Acoustical Units, Prefabricated (Tile, Boards, Panels, Pans) Superseded by SS-S-118a	
SS-C-160	Cements, Insulation, Thermal Type I, Magnesia Cement Type II, Asbestos Cement Type III, Mineral Wool Cement Grade F, Finishing Cement Grade U, Utility Cement Type IV, Vermiculite Cement Type V, Diatomaceous Silica Cement	
SS-S-111a	Sound Controlling Materials (Trowel and Spray Applications)	
SS-S-118a	Sound Controlling Blocks and Boards (Tile, Board, Panels)	