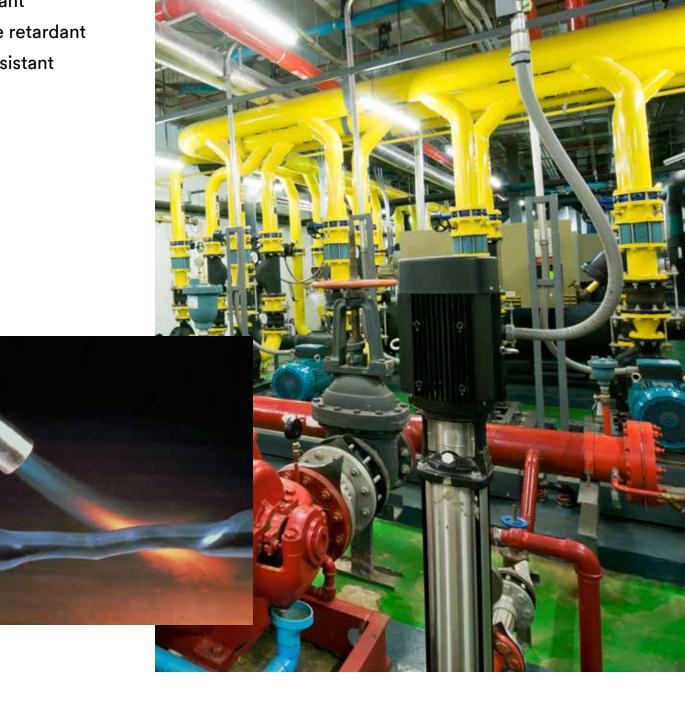
3M[™] Heavy-Duty Tubing

- Abrasion and tear resistant
- Adhesive lined for environmental sealing
- Chemical and solvent resistant
- Flame retardant
- **UV** resistant



3M™ Heat Shrink Tubing MDT

Medium-Duty, Polyolefin

Product description

3M Heat Shrink Tubing MDT can offer increased flexibility in combination with excellent abrasion, corrosion and environmental resistance properties and data meets AMS-DTL-23053/15*, Class 2.

Uncoated product (without sealant) is available on special order. 3M MDT medium-duty tubing is designed to provide reliable performance as well as excellent mechanical and environmental protection. These flame-retardant products combine the important advantages of easy handling and installation with maximum operating reliability and system protection. 3M MDT tubing comes with a factory-applied sealant. This sealant is a heat-activated

thermoplastic material that remains soft and flexible over long periods under adverse environmental conditions. During heating the sealant softens, bonds to underlying surfaces and fills small voids that might be present. When cool, the sealant forms a barrier against water, moisture, dirt and other environmental contaminants.

Typical applications

3M MDT tubing installs easily and has shrink ratios to accommodate effective insulating and sealing over large transitions, splices and battery cables.

Standard color

All sizes available in black. 3M MDT-0400, -0800 and -1100 tubing are also available in red.

Standard packaging

Four-foot lengths. Other lengths are available subject to special quotation.

Ordering information

Order 3M MDT tubing by product name, size equivalent to the expanded inside diameter, package type and color. Always order the largest size that will shrink snugly over the component to be covered. Example: MDT-1100-48A tubing, 4 ft., black.

Typical Properties

Applicable Specification - SAE-AMS-DTL-23053/15,** Class 2

Physical

Tensile Strength 2400 PSI
Ultimate Elongation 475%
Longitudinal Change +1, -10%
Secant Modulus (2%) 14,000 PSI
Specific Gravity 1.28

*Heat Aging 7 days @ 175°C Elongation 225%

*Heat Shock (4 hrs. @ 225°C) *Low Temperature

Flexibility (4 hrs. @ -55°C)

Electrical

Dielectric Strength 500 V/mil (60 mils) Volume Resistivity 10¹⁴ ohm-cm

Chemical

Corrosive Effect Non-corrosive
Solvent Resistance
Tensile Strength 1500 PSI
Dislantia Strength 400 V/mil

Dielectric Strength 400 V/mil
Water Absorption 0.2%
Fungus Resistance Non-nutrient

Technical information provided consists of typical product data and should not be used for specification purposes. Unless otherwise noted, all tests are performed at room temperature.

- * Outer wall only.
- * Formerly MIL+23053/15 and MIL-DTL-23053/15

Standard Sizes and Dimensions (without adhesive)

No dripping, cracking,

flowing

No cracking

Part Number	Cable Range	Expanded I.D. (Minimum)		Recovered I.D. (Maximum)		Recovered Outer Wall Thickness (Nominal)		Length	Std. Pkg. Pieces/ Carton	Color
		in.	(mm)	in.	(mm)	in.	(mm)	in.		
MDT-0400-48A	#12 - #6 AWG	.40	(10,2)	.15	(3,8)	.09	(2,3)	48	20	Red and Black
MDT-0800-48A	#8 - #3 AWG	.80	(20,3)	.22	(5,6)	.10	(2,5)	48	20	Red and Black
MDT-1100-48A	#2 - 2/0 AWG	1.10	(27,9)	.37	(9,4)	.10	(2,5)	48	20	Red and Black
MDT-1300-48A	#1 - 4/0 AWG	1.30	(33,0)	.43	(10,9)	.10	(2,5)	48	15	Black Only
MDT-1500-48A	1/0 - 250 MCM	1.50	(38,1)	.50	(12,7)	.10	(2,5)	48	20	Black Only
MDT-1700-48A	4/0 - 400 MCM	1.70	(43,2)	.60	(15,2)	.10	(2,5)	48	20	Black Only
MDT-2000-48A	300 - 500 MCM	2.00	(50,8)	.75	(19,1)	.10	(2,5)	48	15	Black Only
MDT-3000-48A	600 - 1250 MCM	3.00	(76,2)	1.00	(25,4)	.12	(3,0)	48	15	Black Only
MDT-4300-48A	1000 - 2500 MCM	4.30	(109,2)	1.50	(38,1)	.15	(3,8)	48	10	Black Only

Note: Dimensions in inches are approximate.

3M™ Heat Shrink Tubing HDT

Heavy-Duty, Polyolefin

Product description

3M Heat Shrink Tubing HDT is designed to provide reliable performance as well as excellent mechanical and environmental protection. This flame-retardant product combines the important advantage of easy handling and installation with maximum operating reliability and system protection. 3M HDT tubing comes with a factoryapplied sealant. This sealant is a heat-activated thermoplastic material that remains soft and flexible over long periods under adverse environmental conditions. During heating the sealant softens, bonds to underlying surfaces and fills small voids that might be present. When cool, the sealant forms a barrier against water, moisture, dirt and other environmental contaminants. Heavy-duty tubing is fabricated from specially formulated cross-linked polyolefin, providing long-term environmental protection. The tubing is also highly chemical, abrasion and split resistant. Meets AMS-DTL-23053/15**, Class 1.

Uncoated product (without sealant) is available on special order.

Standard color

All sizes available in black. 3M HDT-0300, -0400, -0800 and -1100 tubing are also available in red.

Standard packaging

Four-foot lengths. Other lengths are available subject to special quotation.

Ordering information

Order 3M HDT tubing by product name, size equivalent to the expanded inside diameter, package type and color. Always order the largest size that will shrink snugly over the component to be covered. Example: HDT-1100-48A tubing, 4 ft., black.

Typical Properties

Dhysical

Applicable Specification - SAE-AMS-DTL-23053/15**, Class 1

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Tensile Strength	2400 PSI
Ultimate Elongation	475%
Longitudinal Change	+1, -10%
Secant Modulus (2%)	14,000 PSI

Specific Gravity 1.28

*Heat Aging 7 days @ 175°C Elongation 225%

*Heat Shock No dripping, cracking, (4 hrs. @ 225°C) flowing

*Low Temperature No cracking

Flexibility (4 hrs. @ -55°C)

Flammability Self-extinguish

Electrical

Dielectric Strength 500 V/mil (60 mils) Volume Resistivity 10¹⁴ ohm-cm

Chemical

Corrosive Effect Non-corrosive

Solvent Resistance

Tensile Strength 1500 PSI
Dielectric Strength 200 V/mil
Water Absorption 0.02%
Fungus Resistance Non-nutrient

Technical information provided consists of typical product data and should not be used for specification purposes. Unless otherwise noted, all tests are performed at room temperature.

- * Outer wall only.
- * Formerly MIL+23053/15 and MIL-DTL-23053/15

Standard Sizes and Dimensions (without adhesive)

Part Number	Cable Range	Expanded I.D. (Minimum)		Recovered I.D. (Maximum)		Recovered Outer Wall Thickness (Nominal)		Length	Std. Pkg. Pieces/ Carton	Color
		in.	(mm)	in.	(mm)	in.	(mm)	in.		
HDT-0300-48A	#14-#8 AWG	.30	(7,62)	.10	(2,5)	.08	(2,0)	48	20	Red and Black
HDT-0400-48A	#12 - #6 AWG	.40	(10,2)	.15	(3,8)	.09	(2,3)	48	20	Red and Black
HDT-0800-48A	#8 - 1/0 AWG	.80	(20,3)	.20	(5,1)	.11	(2,8)	48	20	Red and Black
HDT-1100-48A	#2 - 4/0 AWG	1.10	(27,9)	.37	(9,4)	.12	(3,0)	48	20	Red and Black
HDT-1500-48A	3/0 - 400 MCM	1.50	(38,1)	.50	(12,7)	.17	(4,3)	48	20	Black Only
HDT-2000-48A	250 - 750 MCM	2.00	(50,8)	.65	(16,5)	.17	(4,3)	48	10	Black Only
HDT-3000-48A	600 - 1250 MCM	3.00	(76,2)	1.00	(25,4)	.17	(4,3)	48	10	Black Only
HDT-4500-48A	1500 - 2500 MCM	4.50	(114,3)	1.50	(38,1)	.17	(4,3)	48	5	Black Only
HDT-6000-48A	2.1" - 4.8" O. D.	6.00	(152,4)	1.80	(45,7)	.17	(4,3)	48	5	Black Only
HDT-7000-48A	2.5" - 5.6" O. D.	7.00	(177,8)	2.00	(50,8)	.17	(4,3)	48	5	Black Only

Note: Dimensions in inches are approximate.