M.M. NEWMAN CORPORATION

HELI-TUBE® SPIRAL WRAP PRODUCT GUIDE

Natural Polyethylene

Natural Polyethylene:

Ideal for general applications, this low-cost material is highly abrasion resistant & is not affected by most solvents.

Max. Operating Temperature	190°F (88°C)											
Min. Operating Temperature	-76°F (-60°C)											
Abrasion Resistance Lower Nos. Better mg loss per M cycles Tabor D1044	22											
Di-Electric Constant D-150	2.5											
Tensile Strength @ 73°F: D-638-52T psi	N/A											
Tensile Strength @ 73°F: D-412-51T psi	1,800											
Specific Gravity D792-66	0.92											
Effect of Solvents at Ambient	None below 122°F (50°C)											
Effect of Acids at Ambient	None											
Effect of Alkalies at Ambient	None											
Water Absorption % D-570	.014											
Flammability	Flammable											
MIL Spec. & Approvals	Fed. Spec. L-P-390, MIL-P 21922, A-A-59602											
Size (Inches)	1/8	3/16	1/4	1/4	3/8	1/2	1/2	5/8	3/4	1	1-1/4	1-1/2
Part No.	HT 1/8C	HT 3/16C	HT 1/4C2 Thin Wall	HT 1/4C	HT 3/8C	HT 1/2C2 Thin Wall	HT 1/2C	HT 5/8C	HT 3/4C	HT 1C	HT 1-1/4C	HT 1-1/2C
Outside Diameter O.D. (Inches)	.125	.187	.250	.250	.375	.500	.500	.625	.750	1.00	1.25	1.50
Wall Thickness (Inches)	.032	.030	.035	.045	.052	.040	.062	.062	.065	.080	.090	.100
Nominal Inside Diameter I.D. (Inches)	.061	.127	.180	.160	.271	.420	.376	.500	.620	.840	1.070	1.30
Pitch (Inches)	.187	.250	.375	.375	.438	.563	.563	.625	.750	1.00	1.25	1.50
Weight Lbs/M Ft.	4	6	9	12	22	24	35	44	57	94	133	178
Maximum Bundle Range (Inches)	1/16 to 1/2	1/8 to 1-1/2	3/16 to 2	3/16 to 2	5/16 to 3	3/8 to 4	3/8 to 4	1/2 to 4-1/2	3/4 to 5	1 to 7	1-1/4 to 8	1-1/2 to 10

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Polyethylene in Colors

Polyethylene in Colors:

Used for identification, coding and decoration. Includes red, white, blue, yellow, orange, gray, brown, purple & green. Day-Glo colors include orange, green, yellow, and pink. Colors may not be available from stock in all sizes, consult factory.

Max. Operating Temperature	190°F (88°C)					
Min. Operating Temperature	-76°F (-60°C)					
Abrasion Resistance Lower Nos. Better mg loss per M cycles Tabor D1044	22					
Di-Electric Constant D-150	2.5					
Tensile Strength @ 73°F: D-638-52T psi	N/A					
Tensile Strength @ 73°F: D-412-51T psi	1,800					
Specific Gravity D792-66	0.92					
Effect of Solvents at Ambient	None below 122°F (50°C)					
Effect of Acids at Ambient	None					
Effect of Alkalies at Ambient	None					
Water Absorption % D-570	.014					
Flammability	Flammable					
MIL Spec. & Approvals	Fed. Spec. L-P-390, MIL-P 21922					
Size (Inches)	1/8	1/4	3/8	1/2	3/4	1
Part No.	HT 1/8C-COLOR	HT 1/4C-COLOR	HT 3/8C-COLOR	HT 1/2C-COLOR	HT 3/4C-COLOR	HT 1C-COLOR
Outside Diameter O.D. (Inches)	.125	.250	.375	.500	.750	1.00
Wall Thickness (Inches)	.032	.045	.052	.062	.065	.080
Nominal Inside Diameter I.D. (Inches)	.061	.160	.271	.376	.620	.840
Pitch (Inches)	.187	.375	.438	.563	.750	1.00
Weight Lbs/M Ft.	4	12	22	35	57	94
Maximum Bundle Range (Inches)	1/16 to 1/2	3/16 to 2	5/16 to 3	3/8 to 4	3/4 to 5	1 to 7

Ultraviolet-Resistant Black Polyethylene:
Has the same properties as natural polyethylene but features an ultraviolet absorber which permits outdoor use in direct sunlight for long periods of time.

Max. Operating Temperature	190°F (88°C)											
Min. Operating Temperature	-76°F (-60°C)											
Abrasion Resistance Lower Nos. Better mg loss per M cycles Tabor D1044	20											
Di-Electric Constant D-150	2.6											
Tensile Strength @ 73°F: D-638-52T psi	N/A											
Tensile Strength @ 73°F: D-412-51T psi	2,000											
Specific Gravity D792-66	0.93											
Effect of Solvents at Ambient	None below 122°F (50°C)											
Effect of Acids at Ambient	None											
Effect of Alkalies at Ambient	None											
Water Absorption % D-570	.03											
Flammability	Flammable											
MIL Spec. & Approvals	Fed. Spec. L-P-390, MIL-P 21922, A-A-59602											
Size (Inches)	1/8	3/16	1/4	1/4	3/8	1/2	1/2	5/8	3/4	1	1-1/4	1-1/2
Part No.	HT1/8 UR	HT3/16 UR	HT1/4 UR2-Thin Wall	HT1/4 UR	HT3/8 UR	HT1/2 UR2-Thin Wall	HT1/2 UR	HT5/8 UR	HT3/4 UR	HT1 UR	HT1-1/4 UR	HT1-1/2 UR
Outside Diameter O.D. (Inches)	.125	.187	.250	.250	.375	.500	.500	.625	.750	1.00	1.25	1.50
Wall Thickness (Inches)	.032	.030	.035	.045	.052	.040	.062	.062	.065	.080	.090	.100
Nominal Inside Diameter I.D. (Inches)	.061	.127	.180	.160	.271	.420	.376	.500	.620	.840	1.070	1.30
Pitch (Inches)	.187	.250	.375	.375	.438	.500	.500	.625	.750	1.00	1.25	1.50
Weight Lbs/M Ft.	4	6	9	12	22	24	35	44	57	94	133	178
Maximum Bundle Range (Inches)	1/16 to 1/2	1/8 to 1-1/3	3/16 to 2	3/16 to 2	5/16 to 3	3/8 to 4	3/8 to 4	1/2 to 4-1/2	3/4 to 5	1 to 7	1-1/4 to 8	1-1/2 to 10

Fire-Resistant White Polyethylene:
Suitable for applications requiring self-extinguishing material.

Max. Operating Temperature	176°F (80°C)							
Min. Operating Temperature	-4°F (-20°C)							
Abrasion Resistance Lower Nos. Better mg loss per M cycles Tabor D1044	27							
Di-Electric Constant D-150	2.58							
Tensile Strength @ 73°F: D-638-52T psi	1,300							
Tensile Strength @ 73°F: D-412-51T psi	1,400							
Specific Gravity D792-66	1.29							
Effect of Solvents at Ambient	None below 122°F (50°C)							
Effect of Acids at Ambient	None							
Effect of Alkalies at Ambient	None							
Water Absorption % D-570	.02							
Flammability	94V-2, UL 1441							
MIL Spec. & Approvals	A-A-59602							
Size (Inches)	1/8	3/16	1/4	3/8	1/2	5/8	3/4	1
Part No.	HT 1/8R	HT 3/16R	HT 1/4R	HT 3/8R	HT 1/2R	HT 5/8R	HT 3/4R	HT 1R
Outside Diameter O.D. (Inches)	.125	.187	.250	.375	.500	.625	.750	1.00
Wall Thickness (Inches)	.032	.040	.045	.052	.062	.062	.065	.080
Nominal Inside Diameter I.D. (Inches)	.061	.107	.160	.271	.376	.500	.620	.840
Pitch (Inches)	.187	.250	.375	.438	.563	.625	.750	1.00
Weight Lbs/M Ft.	6	8	17	29	52	67	85	156
Maximum Bundle Range (Inches)	1/16 to 1/2	1/8 to 1-1/12	3/16 to 2	5/16 to 3	3/8 to 4	1/2 to 4-1/2	3/4 to 5	1 to 7

Fire-Resistant Black Polyethylene:
Suitable for applications requiring self-extinguishing material.

Max. Operating Temperature	176°F (80°C)					
Min. Operating Temperature	-4°F (-20°C)					
Abrasion Resistance Lower Nos. Better mg loss per M cycles Tabor D1044	27					
Di-Electric Constant D-150	2.58					
Tensile Strength @ 73°F: D-638-52T psi	1,300					
Tensile Strength @ 73°F: D-412-51T psi	1,400					
Specific Gravity D792-66	1.29					
Effect of Solvents at Ambient	None below 122°F (50°C)					
Effect of Acids at Ambient	None					
Effect of Alkalies at Ambient	None					
Water Absorption % D-570	.02					
Flammability	94V-2, UL 1441					
MIL Spec. & Approvals	A-A-59602					
Size (Inches)	1/8	1/4	3/8	1/2	3/4	1
Part No.	HT 1/8R-B	HT 1/4R-B	HT 3/8R-B	HT 1/2R-B	HT 3/4R-B	HT 1R-B
Outside Diameter O.D. (Inches)	.125	.250	.375	.500	.750	1.00
Wall Thickness (Inches)	.032	.045	.052	.062	.065	.080
Nominal Inside Diameter I.D. (Inches)	.061	.160	.271	.376	.620	.840
Pitch (Inches)	.187	.375	.438	.563	.750	1.00
Weight Lbs/M Ft.	6	17	29	52	85	156
Maximum Bundle Range (Inches)	1/16 to 1/2	3/16 to 2	5/16 to 3	3/8 to 4	3/4 to 4-1/2	1 to 7

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Nylon

Nylon:

Natural Nylon is self-extinguishing & does not produce any toxic or irritating byproducts, even when exposed to an open flame or excessive operating temperatures. Recommended for use in enclosed environments where the possibility of fire exists. This material is also lightweight, highly abrasion resistant & operates over a wide temperature range.

Max. Operating Temperature	250°F (121°C)							
Min. Operating Temperature	-40°F (-40°C)							
Abrasion Resistance Lower Nos. Better mg loss per M cycles Tabor D1044	6-8							
Di-Electric Constant D-150	4.0							
Tensile Strength @ 73°F: D-638-52T psi	12,000							
Tensile Strength @ 73°F: D-412-51T psi	N/A							
Specific Gravity D792-66	1.14							
Effect of Solvents at Ambient	None							
Effect of Acids at Ambient	Satisfactory except for strong acids							
Effect of Alkalies at Ambient	None							
Water Absorption % D-570	1.5							
Flammability	Self-extinguishing							
MIL Spec. & Approvals	ASTM D 4066, L-P-410A							
Size (Inches)	1/8	3/16	1/4	3/8	1/2	5/8	3/4	1
Part No.	HT 1/8N	HT 3/16N	HT 1/4N	HT 3/8N	HT 1/2N	HT 5/8N	HT 3/4N	HT 1N
Outside Diameter O.D. (Inches)	.125	.187	.250	.375	.500	.625	.750	1.00
Wall Thickness (Inches)	.015	.020	.025	.035	.035	.032	.032	.032
Nominal Inside Diameter I.D. (Inches)	.095	.147	.200	.305	.430	.561	.686	.936
Pitch (Inches)	.187	.250	.375	.438	.500	.625	.750	1.00
Weight Lbs/M Ft.	3	6	9	18	25	30	36	50
Maximum Bundle Range (Inches)	1/16 to 1/2	1/8 to 1-1/12	3/16 to 2	5/16 to 3	3/8 to 4	1/2 to 4-1/2	1/2 to 5	1 to 7

HELI-TUBE® SPIRAL WRAP PRODUCT GUIDE

Black Nylon

Black Nylon:

Features the same properties as Natural Nylon with the added benefit of an ultraviolet absorber so that it can be used in direct sunlight for long periods of time.

Max. Operating Temperature	250°F (121°C)								
Min. Operating Temperature	-40°F (-40°C)								
Abrasion Resistance Lower Nos. Better mg loss per M cycles Tabor D1044	6-8								
Di-Electric Constant D-150	4.0								
Tensile Strength @ 73°F: D-638-52T psi	12,000								
Tensile Strength @ 73°F: D-412-51T psi	N/A								
Specific Gravity D792-66	1.14								
Effect of Solvents at Ambient	None								
Effect of Acids at Ambient	Satisfactory except for strong acids								
Effect of Alkalies at Ambient	None								
Water Absorption % D-570	1.5								
Flammability	Self Extinguishing								
MIL Spec. & Approvals	ASTM D 4066, L-P-410A, MIL-T-47287A**								
Size (Inches)	1/8	3/16	1/4	3/8	1/2	5/8	3/4	7/8	1
Part No.	HT 1/8N-B	HT 3/16N-B	HT 1/4N-B	HT 3/8N-B	HT 1/2N-B	HT 5/8N-B	HT 3/4N-B	HT 7/8N-B	HT 1N-B
Outside Diameter O.D. (Inches)	.125	.187	.250	.375	.500	.625	.750	.875	1.00
Wall Thickness (Inches)	.015	.020	.025	.035	.035	.032	.032	.032	.032
Nominal Inside Diameter I.D. (Inches)	.095	.147	.200	.305	.430	.561	.686	.811	.936
Pitch (Inches)	.187	.250	.375	.438	.500	.625	.750	.875	1.00
Weight Lbs/M Ft.	3	6	9	18	25	30	36	48	50
Maximum Bundle Range (Inches)	1/16 to 1/2	1/8 to 1-1/2	3/16 to 2	5/16 to 3	3/8 to 4	1/2 to 4-1/2	1/2 to 5	5/8 to 6	1 to 7

** Not all sizes meet this spec. Custom pitch also may be required.

PTFE:

Natural PTFE features the widest operating temperature range of any material and can be used from -450°F to + 500°F. UV resistant, chemically inert and non-flammable, it is also available in black and a wide selection of colors.

Max. Operating Temperature	500°F (260°C)								
Min. Operating Temperature	-328°F (-200°C)								
Abrasion Resistance Lower Nos. Better mg loss per M cycles Tabor D1044	7								
Di-Electric Constant D-150	2.1								
Tensile Strength @ 73°F: D-638-52T psi	3,000								
Tensile Strength @ 73°F: D-412-51T psi	N/A								
Specific Gravity D792-66	2.1								
Effect of Solvents at Ambient	None								
Effect of Acids at Ambient	None								
Effect of Alkalies at Ambient	None								
Water Absorption % D-570	<.01								
Flammability	VW-1								
MIL Spec. & Approvals	ASTM D-3295, Group 4, MIL-T-47287A**								
Size (Inches)	1/16	1/8	1/8	3/16	1/4	3/8	1/2	3/4	1
Part No.	HT 1/16T	HT 1/8T 1	HT 1/8T2 Thin Wall	HT 3/16T	HT 1/4T	HT 3/8T	HT 1/2T	HT 3/4T	HT 1T
Outside Diameter O.D. (Inches)	.062	.125	.125	.187	.250	.375	.500	.750	1.00
Wall Thickness (Inches)	.016	.030	.020	.030	.030	.030	.030	.032	.040
Nominal Inside Diameter I.D. (Inches)	.030	.065	.085	.127	.187	.312	.438	.686	.920
Pitch (Inches)	.062	.187	.187	.250	.375	.438	.500	.750	1.00
Weight Lbs/M Ft.	4.2	9.4	7.4	15.2	20.7	36.5	50.5	81.3	175.0
Maximum Bundle Range (Inches)	1/32 to 1/8	1/16 to 1/2	1/16 to 1/2	1/8 to 1-1/2	3/16 to 2	5/16 to 2-1/2	3/8 to 3	1/2 to 4	3/4 to 5

** Not all sizes meet this spec. Custom pitch also may be required.