SWM

Application Guide

Conwed Square Netting

Naltex Diamond Netting

Application Guide for Pipe Protection Netting

SWM Offers Advanced Materials for Protecting and Enhancing the Flow of Natural Gas and Oil through Pipelines

SWM manufactures Conwed™ Pipe Protection Netting (formerly known as PipeSaver Rockshield) & Naltex™ Diamond Netting that helps maintain cathodic flow in natural gas and oil pipelines. The durable plastic mesh is wrapped around the pipe to protect against debris and rock damage during backfilling and against problems caused by certain soil conditions after pipe installation. Our netting products provide exceptional protection to help minimize rock chips that can eventually cause corrosion. Several grades and thicknesses of Conwed & Naltex netting products are stocked and available to meet your protection needs. Additional features and benefits include:

- Available in convenient 5' x 100' and 6' x 100' rolls
- Absorbs impact of uneven back fill
- Protects pipe coating from protruding rocks in trench
- Minimizes abrasion of coating from pipe movement underground
- Protects pipe during future excavations
- Temperature & weather resistant
- Cushions against concrete weights
- Exhibit strength, durability & flexibility to withstand tough installation conditions
- Easy to install

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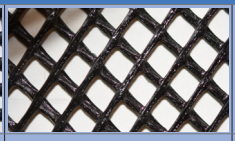
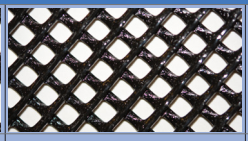
SWM Netting Properties					
					
	X02610-001 (410-000432)	X02605-002 (410-000430)	X02615-001 (410-000433)	X02620-003 (410-000437)	X02600-001 (410-000429)
Structure	Square	Diamond	Diamond	Diamond	Diamond
Standard Roll Size					
Feet	5' x 100'	5' x 100'	5' x 100'	5' x 100'	5' x 100'
Meters	1.5 m x 30 m	1.5 m x 30 m	1.5 m x 30 m	1.5 m x 30 m	1.5 m x 30 m
Nominal Thickness					
Inches	0.168"	0.160"	0.160"	0.180"	0.130"
Millimeters	4.30 mm	4.00 mm	4.00 mm	4.57 mm	3.30 mm
Nominal Weight					
pmsf	158	125	140	155	100
gsm	758	600	672	744	480

The data displayed above are a representative sample of our manufacturing capabilities. Depending on the final application, SWM can vary the netting characteristics to meet specific performance requirements. 6' (1.8 m) roll width also available.

SWM Netting Technical Characteristics					
	X02605-002 (410-000430)	X02606-001 (410-000431)	X02620-003 (410-000437)	X02621-001 (410-000442)	Test Method
Elongation at Max Strength (MD)	114%	114%	118%	118%	ASTM D4595
Elongation at Max Strength (TD)	86%	86%	91%	91%	ASTM D4595
Tear Strength (MD)	11 lbs (4990 g)	11 lbs (4990 g)	12 lbs (5443 g)	12 lbs (5443 g)	ASTM D624
Tear Strength (TD)	7 lbs (3175 g)	7 lbs (3175 g)	12 lbs (5443 g)	12 lbs (5443 g)	ASTM D624
Tensile Strength	26 lbs/inch (4.64 kg/cm)	26 lbs/inch (4.64 kg/cm)	28 lbs/inch (5.0 kg/cm)	28 lbs/inch (5.0 kg/cm)	ASTM D4595
Impact Strength	47 lbs/inch (8.4 kg/cm)	47 lbs/inch (8.4 kg/cm)	52 lbs/inch (9.3 kg/cm)	52 lbs/inch (9.3 kg/cm)	ASTM G14 Mod
Impact Resistance	Pass	Pass	Pass	Pass	ASTM G13 Mod*
Compressive Strength	4641 lb/ft^2 (222 kPa)	4641 lb/ft^2 (222 kPa)	6388 lb/ft^2 (306 kPa)	6388 lb/ft^2 (306 kPa)	ASTM 1621
Melt Temperature	248°F (120°C)	248°F (120°C)	237°F (114°C)	237°F (114°C)	ASTM E794
Freeze Resistance	No Crack	No Crack	No Crack	No Crack	-22°F, bent to 356° (-30°C, bent to 180°)
Cathodic Protection	N/A	N/A	N/A	N/A	Non-Conductive

*50 lbs (22.7 kg) of stone

SWM Netting Recommendations by Pipe Size				
Longitudinal Wrap X02621-001 (410-000442) or X02606-001 (410-000431)				
Nominal Pipe Diameter Inches (Meters)	Coated Pipe Circumference Inches* (Meters)	Length** of Cut Inches (Meters)	Squares of 1000 Feet of Pipe (Meters)	PipeSaver per 1 Mile of Pipe (Kilometer)
4" (0.10 m)	14.7" (0.37 m)	17" (0.43 m)	14.3' (4.36 m)	76 mi (122 km)
6" (0.15 m)	21.4" (0.54 m)	24" (0.61 m)	20.0' (6.1 m)	106 mi (171 km)
8" (0.20 m)	27.7" (0.70 m)	30" (0.76 m)	25.0' (7.62 m)	132 mi (212 km)
10" (0.25 m)	34.4" (0.87 m)	36" (0.91 m)	30.3' (9.24 m)	160 mi (257 km)
12" (0.30 m)	40.6" (1.03 m)	44" (1.12 m)	37.1' (11.3 m)	169 mi (272 km)
14" (0.36 m)	44.6" (1.13 m)	51" (1.29 m)	43.5' (13.3 m)	230 mi (370 km)
16" (0.41 m)	50.9" (1.29 m)	54" (1.37 m)	45.6' (13.9 m)	240 mi (386 km)
Longitudinal Wrap X02621-001 (410-000442), X02620-003 (410-000437) or X02605-002 (410-000430)				
18" (0.46 m)	57.1" (1.45 m)	62" (1.57 m)	52.7' (16.1 m)	278 mi (447 km)
20" (0.51 m)	63.4" (1.61 m)	70" (1.78 m)	58.9' (18 m)	311 mi (501 km)
Longitudinal Wrap ALL Items				
22" (0.56 m)	69.7" (1.77 m)	75" (1.91 m)	62.5' (19.1 m)	330 mi (531 km)
24" (0.61 m)	76.0" (1.93 m)	80" (2.03 m)	66.7' (20.3 m)	352 mi (566 km)
26" (0.66 m)	82.3" (2.09 m)	87" (2.21 m)	74.5' (22.7 m)	392 mi (4631 km)
28" (0.71 m)	88.6" (2.25 m)	94" (2.39 m)	80.0' (24.4 m)	423 mi (681 km)
30" (0.76 m)	94.8" (2.41 m)	100" (2.54 m)	83.4' (25.4 m)	441 mi (710 km)
32" (0.81 m)	101.1" (2.57 m)	108" (2.74 m)	91.0' (27.7 m)	481 mi (774 km)
34" (0.86 m)	107.4" (2.73 m)	113" (2.87 m)	95.3' (29 m)	504 mi (811 km)
36" (0.91 m)	113.7" (2.89 m)	120" (3.05 m)	100.0' (30.5m)	528 mi (845 km)
38" (0.97 m)	120.0" (3.05 m)	126" (3.20 m)	105.3' (32.1 m)	556 mi (895 km)
40" (1.02 m)	126.3" (3.21 m)	133" (3.38 m)	111.2' (33.9 m)	587 mi (945 km)
42" (1.07 m)	132.5" (3.37 m)	139" (3.53 m)	117.7' (035.9 m)	622 mi (1001 km)
44" (1.12 m)	138.8" (3.53 m)	150" (3.81 m)	125.0' (38 m)	660 mi (1062 km)
46" (1.17 m)	145.1" (3.69 m)	150" (3.81 m)	125.0' (038 m)	660 mi (1062 km)
48" (1.22 m)	151.4" (3.85 m)	158" (4.01 m)	133.4' (40.7 m)	704 mi (1133 km)
50" (1.27 m)	157.7" (4.01 m)	170" (4.32 m)	142.9' (43.6 m)	755 mi (1215 km)
52" (1.32 m)	164.0" (4.17 m)	170" (4.32 m)	142.9' (43.6 m)	755 mi (1215 km)
54" (1.37 m)	170.2" (4.32 m)	180" (4.57m)	153.9' (46.9m)	813 mi (1308 km)
56" (1.42 m)	176.5" (4.48 m)	200" (5.08 m)	166.7' (50.8 m)	880 mi (1416 km)
58" (1.47 m)	182.8" (4.64 m)	200" (5.08 m)	166.7' (50.8m)	880 mi (1416 km)
60" (1.52 m)	189.1" (4.80 m)	200" (5.08 m)	166.7' (50.8 m)	880 mi (1416 km)
Wrapping Technique				

* Calculations are based on 3/32" coating thickness.
** The calculated length of cut is based on the economical material use.
Each applicator should make their own calculation based on coated pipe circumference and efficiency of operation

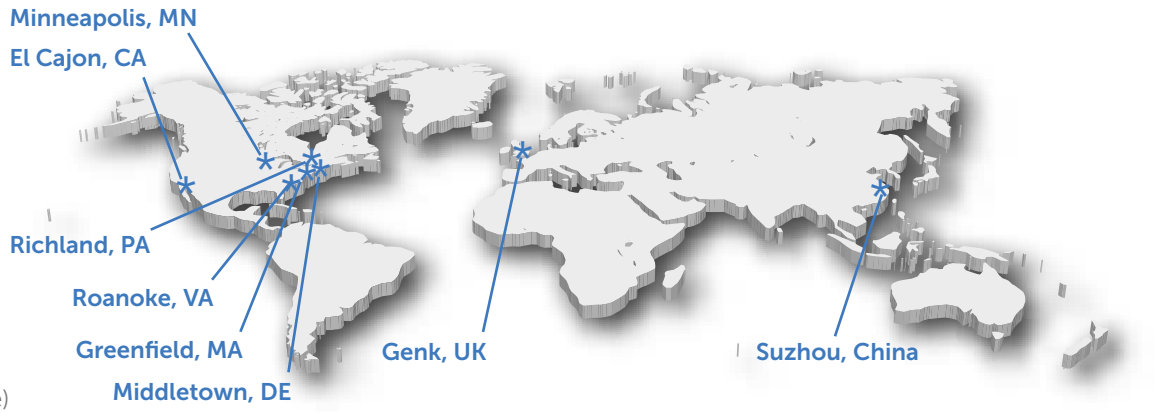
Netting for Pipe Protection Application Guide

SWM recognizes the value of providing customized solutions to our partners. We build relationships with both our customers and our suppliers to ensure that we offer the best quality and service. We stay current on high-performance material issues to aid in product selection. We offer same day shipments, drop shipments and stocking agreements, as well as product customization per application. We strive to maintain high quality and achieve customer satisfaction with every order.

Our Facilities

SWM locations shown
Genk, UK (top),
Middletown, DE, USA (middle)
Richland, PA, USA (bottom)

SWM is focused on advancing advanced materials and technologies in our ISO 9001, ISO 14001, ISO 50001 and OHSAS 18001 certified facilities. Our diverse product lines are recognized worldwide for their superior performance in a variety of applications. For more than 70 years, SWM has served its customers through a wide global manufacturing network with diverse processing capabilities developing solutions tailored to meet our customers unique requirements.



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About SWM

SWM is a leading global performance materials company. We use natural fibers, resins, and polymers to provide essential solutions that enhance product performance and help our customers win in a variety of industries and applications. For further information, please visit our web site at www.swmintl.com.