

DENSO ROCK SHIELD HDX

Heavy Duty Protective Mesh with Geotextile Backing

Description

Denso Rock Shield HDX is a flexible padding designed for the protection of the corrosion coating on pipelines when rocky backfill is encountered. The product is manufactured from high density polyethylene (HDPE) incorporating a special expansion process to provide compressive strength and flexibility. It is extruded to 11 mm (3/8") thick diamond mesh grid with a 6 oz. geotextile fabric laminated to the back.

Uses

Designed for the protection of the corrosion coating on pipelines when rocky backfill is encountered.

Features

- Offers ultimate impact protection during backfill
- Protects pipe coating from protruding rocks in trench
- Minimizes abrasion of coating from pipe movement underground
- Protects pipe during future excavations
- Geotextile acts as a slip sheet around pipe
- Maintains cathodic protection without inhibiting cathodic flow
- Cushions against concrete weights
- Cuts with a utility knife
- Easy to install

Application

For pipe diameters 18" (450mm) or less: Unroll material parallel to the pipe and wrap around pipe (longitudinal "cigarette" wrap). Then, fasten with tape, buckles or cable ties. The geotextile fabric side shall be applied face down so fabric is in direct contact with pipe.

For pipe diameters greater than 18" (450mm): Sheets need to be pre-cut to match pipe circumference (refer to chart on back). Next, wrap sheets around pipe width (spiral wrap). Then, fasten with tape, buckles or cable ties. The geotextile fabric side shall be applied face down so fabric is in direct contact with pipe.



TECHNICAL DATA SHEET

Tech Data

Properties	Imperial	Metric
Thickness	0.44 in.	11 mm
Weight	0.40 lbs/SF	.95 kgs/meter sq.
Aperture Size	.16" x .16" nominal	4.1 mm x 4.1 mm nominal
Polymer Material	Polyethylene with geotextile	Polyethylene with geotextile
Tensile Strength MD (ASTM D4595)	736 lb/ft	1095 kgs/m
Tensile Strength TD (ASTM D4595)	170 lb/ft	253 kgs/m
Tear Strength MD (ASTM D624)	21.6 lbs/ft	32.14 kgs/m
Tear Strength TD (ASTM D624)	5.4 lbs/ft	8.04 kgs/m
Elongation at Break MD (ASTM D4595)	16.7 lbs/ft	24.85 kgs/m
Elongation at Break TD (ASTM D4595)	80.6 lbs/ft	120 kgs/m
Compression Strength (ASTM D1621 MOD)	13,460 lbs/ft @ 50%	20,028 kgs/m @ 50%
Impact Strength (ASTM G14 MOD)	141.7 lb/in	25,308 gms/cm
Rock Drop (6" rock from 6' height 3x)	Pass	Pass
Melt Temperature (ASTM G14)	262.23°F	127.35°C
Freeze Temperature	No failure @ -58°F/180°	No failure @ -50°C/180°
Low Temp. Brittleness (ASTM D746-14)	Pass	Pass
Standard roll width (can be easily cut)	6 ft.	1.82 m
Roll Length	50 ft.	15.25 m
Color	Black	Black



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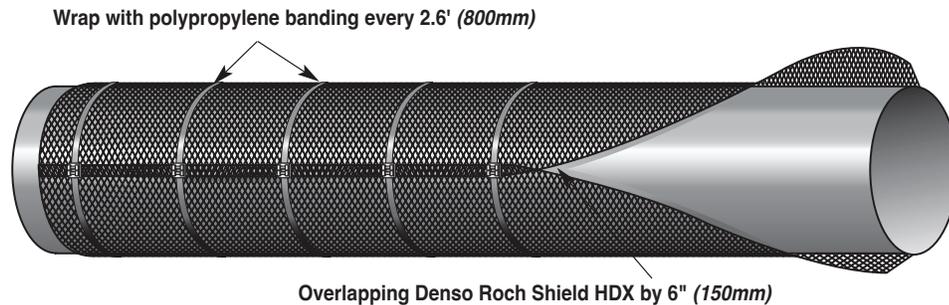
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Installation Guidelines & Methods

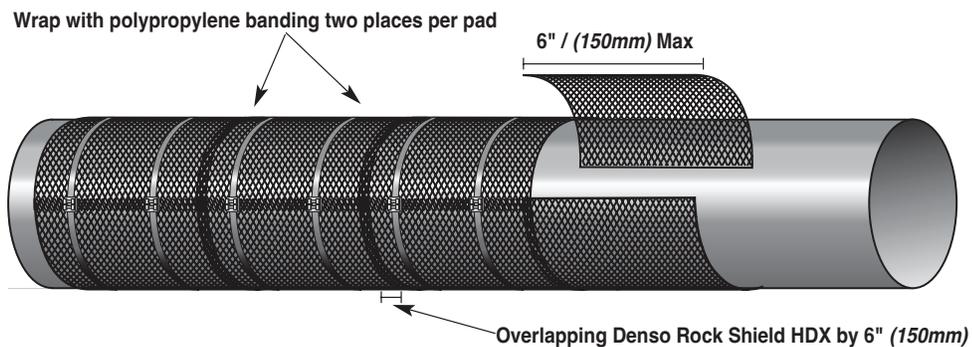
Longitudinal Wrapping For pipes with a circumference of less than 6" (150mm) in relation to the width of the Denso Rock Shield HDX:

1. Unroll the mesh parallel to the pipe which is to be protected.
2. Place the mesh below the pipe.
3. Wrap the mesh around the pipe, overlapping the edges by approx. 6" (150 mm). Geotextile fabric shall be applied face down in contact with pipe.
4. The mesh can be secure by plastic straps or can be heat bonded by use of a gas torch and pressing the two surfaces together.



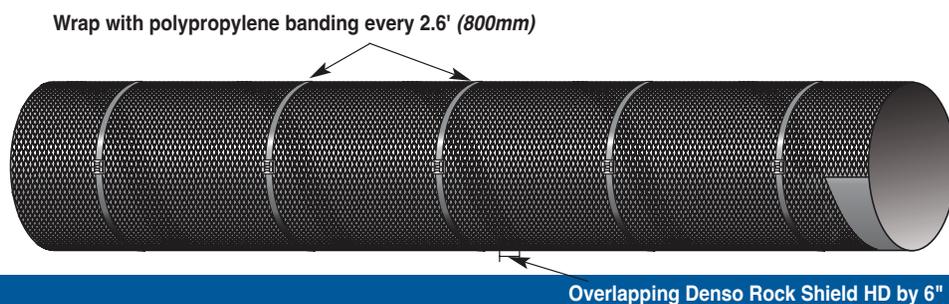
Latitudinal Wrapping For pipes with a larger circumference than the roll width:

1. Cut the mesh into pieces 4-6" (100-150 mm) extra than the circumference of the pipe.
2. Wrap the pipe with the mesh, overlapping the adjacent installed mesh by 6" (150 mm). Geotextile fabric shall be applied face down in contact with pipe.
3. Fix the mesh with plastic straps or heat bond the longitudinal join using a gas torch and pressing the two surfaces together.



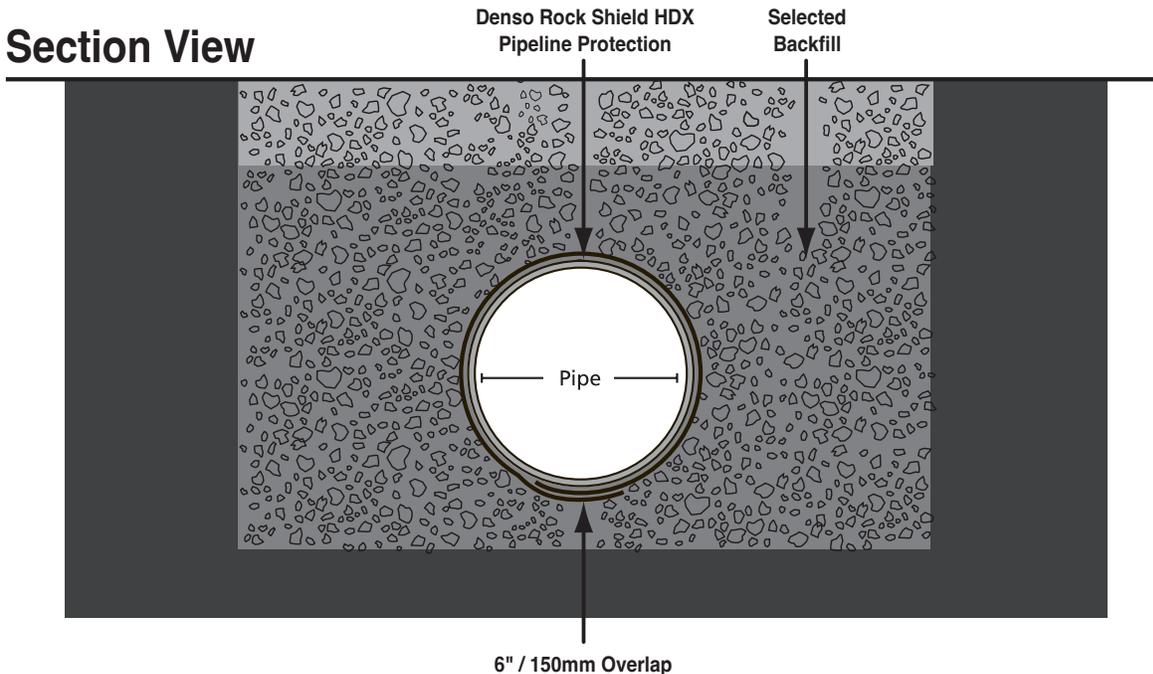
Spiral Wrapping This process can be applied to larger circumference pipes:

1. Start wrapping the pipe moving along the length of the pipe, so that the mesh overlaps slightly.
2. Use plastic strapping to secure the mesh in situ as the mesh is wrapped.
3. Geotextile fabric shall be applied face down in contact with pipe.



Application Diagram

Section View



PADS

Custom cut pads should be wrapped around the circumference of the pipe, covering all exposed areas. Ensure that all pads are of sufficient dimensions to protect the entire pipe.

All pad overlaps shall be placed at the 6 o'clock position of the pipe, taking care to secure the Denso Rock Shield HDX with polypropylene banding.

Place all end to end overlaps min. 2" / 50mm; all parallel pads overlaps min 6" / 150mm.

All pads shall be secured to the pipe by using min. 0.7" / 18mm wide polypropylene banding.

After pads are secured to the pipe, the backfill process may take place.

ROLLS

All rolls should be of adequate coverage to entirely cover the circumference of the pipe.

Denso Rock Shield HDX is to be placed around the pipe, whereby placing overlap portion at the 6 o'clock position of the pipe.

Place all end to end overlaps min. 2" / 50mm; all parallel pads overlaps min 6" / 150mm.

In the event that a side overlap is used, place the overlaps "shingle style". This will ensure that no backfill will protrude under the Denso Rock Shield HDX

After pads are secured to the pipe, the backfill process may take place.



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