

DENSO ROCK SHIELD HD

Heavy Duty Protective Pipeline Mesh

Description

Denso Rock Shield HD 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 into a diamond mesh pattern.

Uses

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

Features

- Absorbs impact of uneven backfill
- Protects pipe coating from protruding rocks in trench
- Minimizes abrasion of coating from pipe movement underground
- Protects pipe during future excavations
- Unaffected by temperature extremes and wet weather
- 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.

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.



Denso Rock Shield HD

Property Specifications

PROPERTIES	ENGLISH	METRIC
Thickness	0.44 in ±0.02	11 mm ±0.02
Weight	0.34 lbs/ft ² ±0.02	1.68 kgs/mt ² ±0.10 kg/m ²
Aperture Size	0.16" x 0.16" nominal	4.1 mm x 4.1 mm nominal
Polymer Material	Polyethylene	Polyethylene
Material Structure	Diamond Mesh	Diamond Mesh
Tensile Strength (MD) (ASTM D 4595)	41.0 lbs/in of width	0.73 kgs/mm of width
Tensile Strength (TD) (ASTM D4595)	44.0 lbs/in of width	0.79 kgs/mm of width
Tear Strength (MD) (ASTM D 624)	15.9 lbs/in	0.28 kg/mm
Tear Strength (TD) (ASTM D 624)	17.3 lbs/in	0.31 kg/mm
Elongation at Break (MD) (ASTM D 4595)	103%	103%
Elongation at Break (TD) (ASTM D 4595)	91%	91%
Compressive Strength (ASTM D 1621 MOD)	40.6 psi	0.28 MPa
Impact Resistance (ASTM G13 MOD)	No Failure at 6" rock	No Failure at 0.15m rock
Impact Strength (ASTM G14)	127.1 lb/in	2.27 kg/mm
Melt Temperature (ASTM E794)	253.4°F	123°C
Freeze Temperature (CUSTOM)	No failure at -30°F / 180° Bend	No failure at -34°C / 180° Bend
Low Temperature Brittleness (ASTM D 2136 MOD @ -58°F / -50°C)	Pass	Pass
Cathodic Protection (CUSTOM)	No inhibiting effects	No inhibiting effects
Roll Width	6 ft	1.83 m
Roll Length	50 ft	15.25 m
Color	Black	Black

All the above information is given in good faith, but the figures are typical values only and should not be taken as a guarantee of performance. Manufacturing tolerances for dimensional and technical characteristics apply and are available upon request. The company reserves the right to improve the product and adjust the specification without notice.

*Calculations are based on 3/32" (0.20mm) coating thickness



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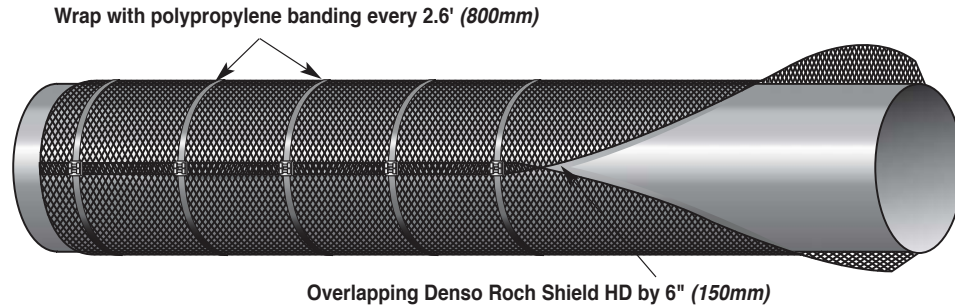
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Installation Guidelines & Methods

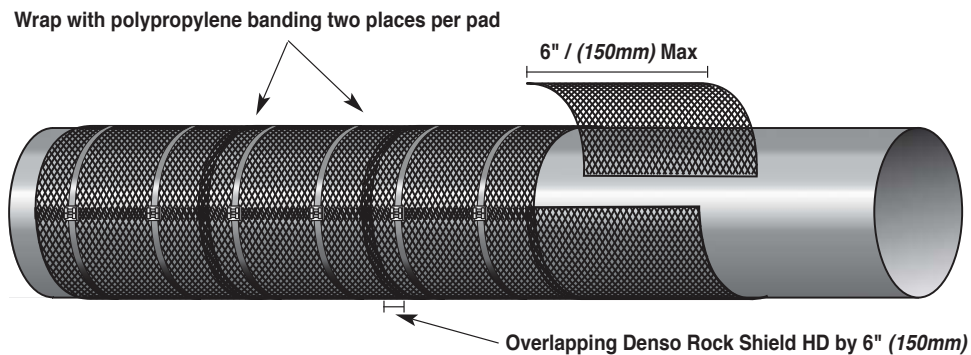
Longitudinal Wrapping For pipes with a circumference of less than 6" (150mm) in relation to the width of the Denso Rock Shield HD:

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)
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



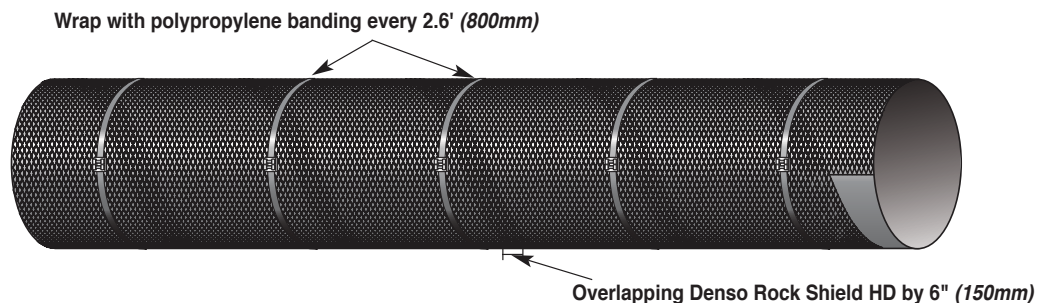
Latitudinal Wrapping For pipes with a larger circumference than the roll width:

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)
3. Fix the mesh with plastic straps or heat bond the longitudinal joint using a gas torch and pressing the two surfaces together.



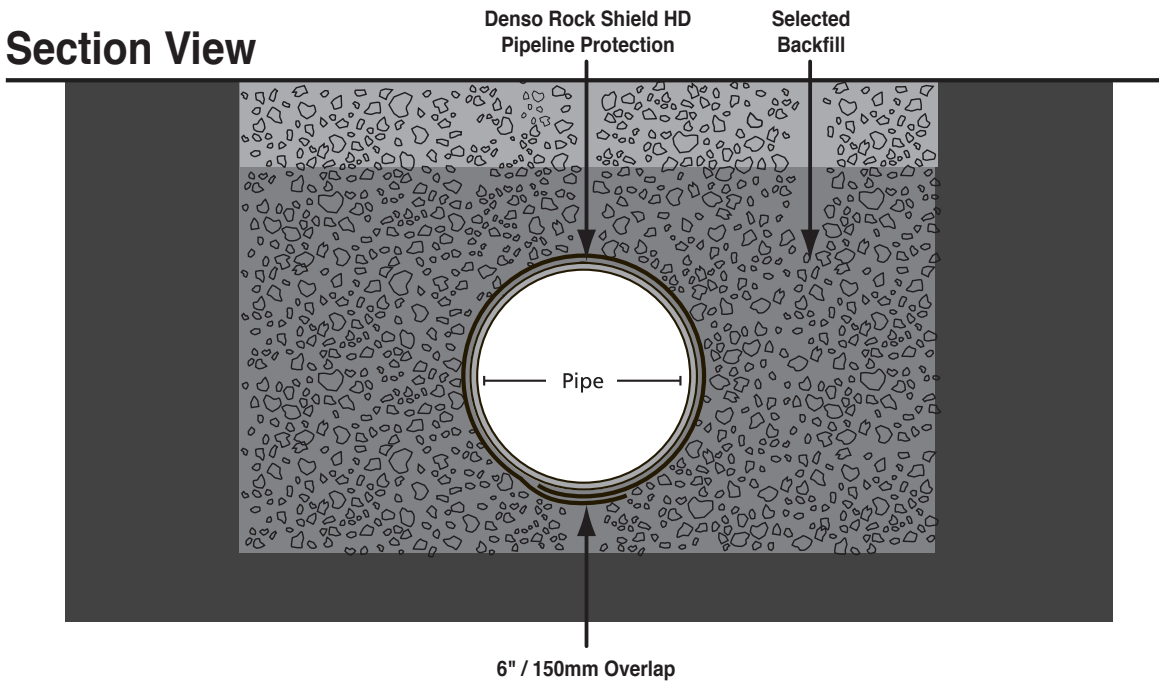
Spiral Wrapping This process can be applied to larger circumference pipes:

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.



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 HD 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 HD 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 HD

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



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