DENSO ROCK SHIELD SD
Protective Pipeline Mesh

Description

Denso Rock Shield SD 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.

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Denso Rock Shield SD

Property Specifications

PROPERTIES	ENGLISH	METRIC
Thickness	0.14 in	*3.56 mm*
Weight	0.10 lbs/ft^2 ±0.02	*508 g/m^2 ±100*
Polymer Material	HDPE	*HDPE*
Material Structure	Diamond Mesh	*Diamond Mesh*
Tensile Strength (ISO 10319)	315 lbs/ft	*469 kg/m*
Elongation at Break (ISO 10319)	45%	*45%*
Compressive Strength (ASTM 1621)	135 lbs/in^2	*95 g/mm^2*
Impact Resistance (ASTM G14)	190 lb/in	*134 g/mm^2*
Specific Gravity	0.55 - 0.8	*0.55 - 0.8*
Material Density (ISO 1872)	58.7 - 60 lbs/ft^2	*286-293 kg/m^2*
Material Melt Index (ISO 1133)	0.44 - 1.32 x 10^{-3} lb*(kg)*/10min 4.76 lb *(2.2kg)* / 374°F *(190°C)*	
Strand Angle	90°	90°
Strand Count	2.8/in	*0.11/mm*
Roll Width	5ft & 6ft	*1.52 & 1.83 m*
Roll Length	100 ft	*30.48 m*

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

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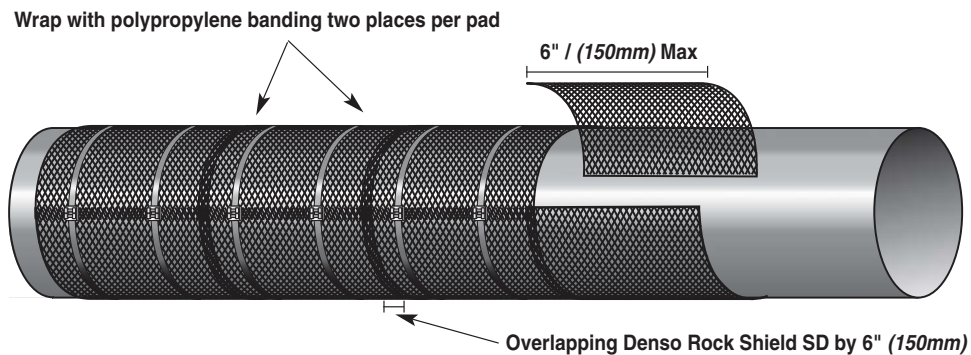# Installation Guidelines & Methods

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

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

Wrap with polypropylene banding every 2.6' *(800mm)*

**Overlapping Denso Roch Shield SD by 6"** *(150mm)*
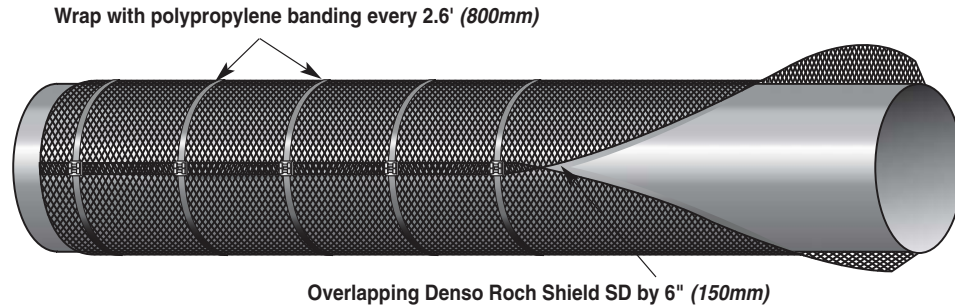
Latitudinal Wrapping
For pipes with a larger circumference than the roll width:

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 join using a gas torch and pressing the two surfaces together.

Wrap with polypropylene banding two places per pad

6" / *(150mm)* Max

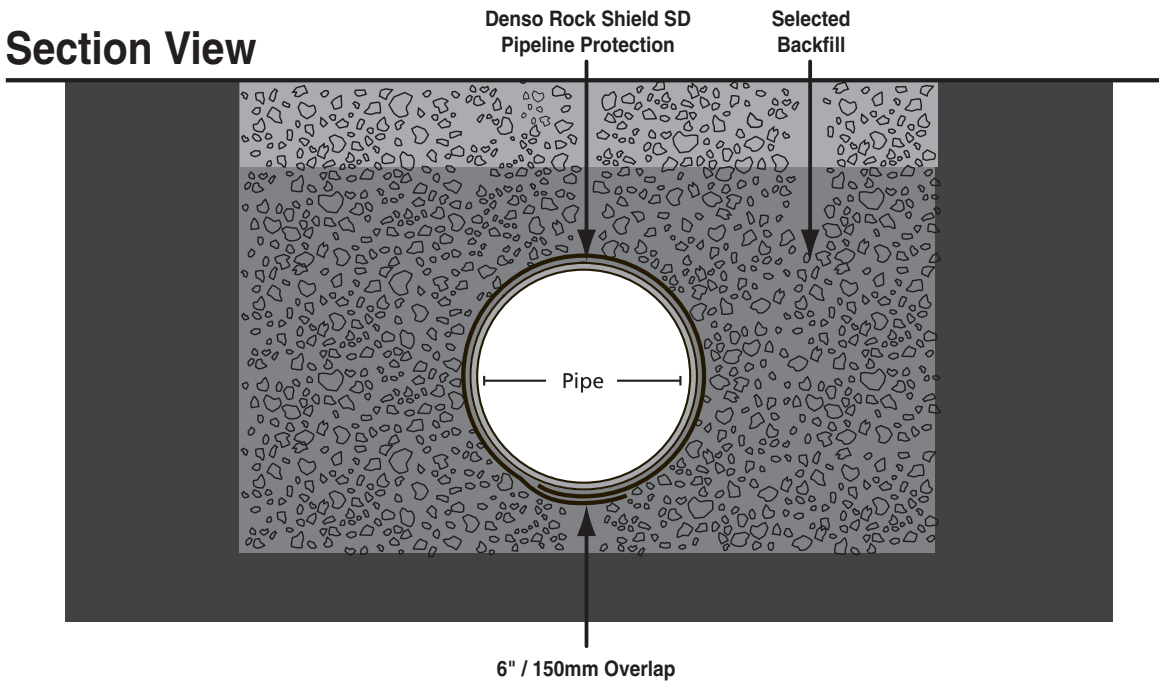**Overlapping Denso Rock Shield SD by 6"** *(150mm)*

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.

Wrap with polypropylene banding every 2.6' *(800mm)*

Overlapping Denso Rock Shield SD by 6" *(150mm)*
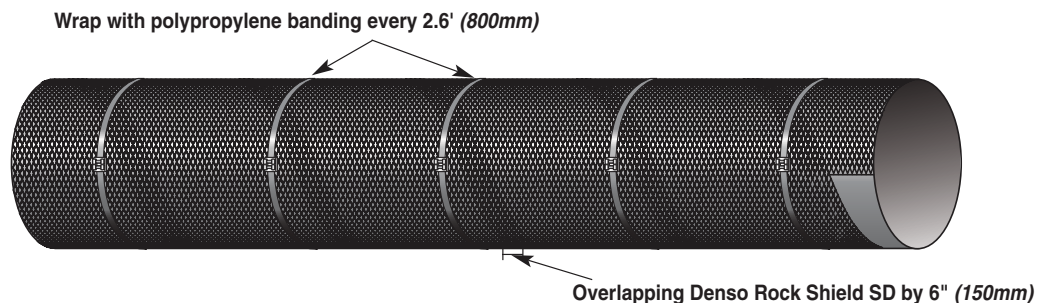
Application Diagram

Section View

Denso Rock Shield SD Pipeline Protection

Selected Backfill

Pipe

6" / 150mm Overlap

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, takiing care to secure the Denso Rock Shield SD 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 polyproylene 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 SD 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 SD

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

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