



**Unconventional Solutions, Inc.**  
Partnering with Your Industry to Repair - Protect - Upgrade

# Leading Edge

## Are you having a hard time finding Horizontal Directional Drilling (HDD) Boring Wrap material? Denso® Bore-Wrap® is your solution.

With Horizontal Directional Drilling (HDD) boring wraps demand getting harder to supply in the industry, Unconventional Solutions has been working hard with Gas companies and contractors to get **Denso® Bore-Wrap®** spec'd into their build of materials job scope.

**Denso® Bore-Wrap®** is made up of several key components, each with benefits selected for their value in this application. The base of the **Bore-Wrap** is its **under layer of woven roving (WR) fibreglass**. This layer of fibreglass is composed of woven layers that run both circumferentially and longitudinally along the pipe. The woven structure provides some resistance to gouging due to the continual change in direction, but the most important factor with the **WR** is the **fibers that wrap the pipe circumferentially**. This continual stranding around the pipe offers a level of compression strength, which will resist shearing even when applied over softer coating systems. The WR also has significant thickness which will increase the level of abrasion resistance. On top of the WR layer is a layer of continuous stranded matting (CSM) which is a long randomised mat of fibreglass that is stitched to the sub layer of WR. The CSM has **omni-directional fabric** so that no one angle is prone to separation and there are no lines that a gouge can naturally follow. Having so many random angles offers an incredible resistance to gouging, so much so that, when tested, the addition of this layer reduced the overall gouge depth to almost half that of five different fibre architectures used in other coating systems in the market.

### Denso® Bore-Wrap® Product Features:

- Backfill quicker
- Prevents coating damage
- Rapid application and cure time
- No mixing or VOCs
- Tapered surface profile
- Outstanding abrasion, gouge and impact resistance
- Resistant to aggressive soil conditions
- Omni-directional matting surface



### Training helps you keep projects on time and under budget.

The Unconventional Solutions USI Team has AMPP Certified Coating Inspectors on staff and can train in the preparation, mixing and application of Denso, 3M or SPC pipeline coatings. Let the USI Team help you and your team get it right the first time and avoid the cost and time of re-coating. Our Certified Coating Inspectors have over 50 years of coating know-how. We can not only get you and your team certified, but we can share our experience to ensure a smooth coating application from start to finish.

USI has 4 certified Denso Trainers, also an SPC Certified Trainer, and two 3M Scotchkote Trainers along with 2-AMPP (formerly NACE) Senior Coating Inspectors (CIP-3) and our owner Tiffany is an AMPP Coating Inspector (formerly NACE CIP-2 Coating Inspector)

Call us to schedule today: 248.735.7000

Keeping You in the Know Since 2002



# USI Dates to Remember

**August 15-18 - MEA** (Cincinnati Ohio)

**September 7**

**MGI (Michigan Gas Industries)**

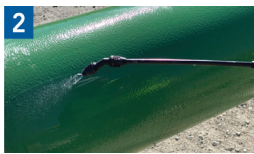
Mystic Creek Golf Course (Milford, MI)

## Denso Bore-Wrap® Field-Applied Abrasion Resistant Outerwear (ARO) Application Instructions



### STEP 1

Prepare the area on either side of the field joint coating in accordance with SSPC SP1 "Solvent Cleaning". Once the area is cleaned, roughen 6 inches of the mainline coating on each side of the field joint, using a coarse sandpaper (60 to 80 grit) or by brush blasting.



### STEP 2

Wet the surface of the area that the roll will be applied onto using a water sprayer. Ethylene glycol or propylene glycol may be used when the temperature is near or below 32°F (0°C).

**Bore-Wrap is water activated**, it is necessary that water is continuously sprayed onto the surface and underbelly of the roll as it is being applied.



### STEP 3

Begin wrapping 6" (150 mm) in front of the field joint coating, with the Omni-directional matting surface facing out "chop on top". The woven structured (checker board) side of the fiber is to be placed facing the surface of the pipe. Wrap the material circumferentially to begin, ensuring that the leading edge has a minimum of 2 layers. Then proceed across the field joint wrapping with a minimum of 50% overlap until the wrap has extended 6" (150 mm) beyond the field joint coating. Then do a final wrap around circumferentially and end with the fiber on top of fiber (do not leave a single layer hanging from the back).



### STEP 4

Ensure the wrap is completely saturated and then **immediately begin wrapping Denso Poly-Wrap over the Bore-Wrap** quickly and with tension applied. Overlap each end of the Bore-Wrap by at least 2" (50 mm) to ensure the ends lay flat and the resin can be retained. 2 to 3 passes should suffice.



### STEP 5

Once fully compressed, **use Denso's perforating tool to puncture the Denso Poly-Wrap**. This will allow for excess resin, moisture, and CO<sub>2</sub> from the reaction to escape. Perforate using enough pressure to get through the Denso Poly-Wrap but not through the layers of Bore-Wrap.



### STEP 6

Allow the roll to remain under compression while it cures. Resin may have escaped through the perforations, that resin is a fair indicator of the materials dry to touch time. **Once the material has fully cured the Denso Poly-Wrap may be removed.** Cure can be checked by using a **Shore D gauge** on a high point of the resin (avoid measuring near ridges and fibers as the gauge tip can move). The product is ready to be used at a Shore D of 65 or greater.

**WATCH INSTRUCTION VIDEO ON YOUTUBE**

<https://youtu.be/frz9OwXHPAo>



## NOW AVAILABLE PURCHASE ORDER (PO) for online orders

Call us at 248.735.7000 or email Customer Service at [cs@usigroups.com](mailto:cs@usigroups.com) to set up an online account.

**Contact the USI team today! We have an Unconventional Solution for YOU!**

### The USI Team offers:

Technical Support • Training • Troubleshooting  
HOTSHOT & Same Day Local Deliveries available for orders placed by 2 p.m. EASTERN TIME

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