

# Trench Breakers, Pads, and Pillows for Pipeline in Challenging Conditions



## PROBLEM

The contractor needed pipeline pads and pillows for 1,400 feet of pipeline on a 58-degree hillside in rural West Virginia in challenging weather conditions.

A recent pipeline job at Dominion Resource's extraction/fractionation plant in Pine Grove, WV presented some pretty hairy challenges. The Dominion Transmission plant processes and stores natural gas liquids (NGLs): propane, normal butane, isobutane, and natural gasoline. They extract, fractionate, store, transport and market to various end-user markets including propane retailers, refineries, petrochemical facilities, and aerosol companies.

The first challenge was laying 1,400 feet of pipeline on a 58-degree hillside where the trucks, excavators, and other equipment had to be winched up the slope and held in place by cables attached to heavy equipment. The second challenge was the constant rain, so severe erosion of the freshly-turned earth was a major concern.

## SOLUTION

The Texas applicator chose to use TerraThane™ 24-series geotechnical foam for the job, winched his truck up the side of the mountain and secured it to heavy equipment.

*"We felt right at home because we use TerraThane™."*

Chad Corbin's company, All Seasons Foam and Coatings Services, Sanger, TX, was chosen to create pipeline pillows and trench breakers for the project. "We took one look at it and, when most companies might have thrown up their hands or declined the job, we felt right at home because we use TerraThane™," says Corbin.

## RESULTS

TerraThane™ requires much less time to apply, saving time and money on any job. Plus, TerraThane™ adheres to the soil and ground around the pipeline helping control erosion, and it lasts much longer than legacy products like sandbags.

Corbin says the TerraThane™ worked perfectly. "They laid 1,400 feet of pipe on the 58-degree slope, we winched our spray rig up the side of the mountain, and sprayed the trench. TerraThane™ did the job on the slope and in the inclement weather, taking much less time than other legacy products to cure in place.

According to Corbin, "TerraThane™ is a great product. Polyurethane foam is far superior to sand breakers. Water eats through the sandbag breakers and the sand escapes and erodes over time. Polyurethane foam breakers bond with the earth, and water doesn't have an effect on them. They're easier to apply and they last."

Learn more at  
[www.TerraThane.com](http://www.TerraThane.com)

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# TECHNICAL SPECIFICATIONS

## TERRATHANE™ 24 SERIES SYSTEM

### DESCRIPTION

TerraThane™ 24 series, geotechnical polyurethane systems are two-component, closed-cell, rigid polyurethane foam designed for concrete raising/lifting/leveling, void fill and cavity fill applications. These are specially designed for bridge approaches and departures, highway and street sections, airport runways and taxiways and residential and commercial concrete slabs. Polyurethane foam has been used in these applications for over 40 years, and NCFI Polyurethane has manufactured these foams for over 20 years.

- Available in hydrophobic or hydro-insensitive formulations.
- Injectable through 5/8" hole making the process less intrusive.
- Flows well to ensure complete void fill and support before raising and lifting.
- Conforms to all irregular shapes.
- Controlled expansion rate to minimize over lifting.
- Fast cure enabling concrete section(s) to be put back into service quickly.
- Lightweight, minimizing pressure on potentially shifting substrate.
- Mixing of two components done by machine for speed and accuracy.
- No minimum batch size and no pre-mixing required, resulting in little to no waste.
- Only one mix design required for entire job: no re-mixing required.

## TYPICAL PHYSICAL PROPERTY RANGES FOR TERRATHANE™ 24 SERIES SYSTEMS

Densities: 2.0lb/ft<sup>3</sup> upwards to 6.0lb/ft<sup>3</sup>

Compression Strengths: 32 psi upwards to 120 psi (free rise, ASTM D1621)

TerraThane™ systems reach 90% of compression strength within approximately 15 minutes of application.

TerraThane™ polyurethane foams are tested to ASTM test methods including but not limited to, D1622, D1623, D2127, C518, D2842, Closed-cell content NCFI TM-300 and D2126. TerraThane™ polyurethane systems have excellent resistance to solvents. Maximum service temperatures range from 180°F (82.2°C) to 200°F (93.3°C).

The above values are average values obtained from laboratory experiments and should serve only as a guide. Consult NCFI for detailed technical data sheets and MSDS sheets for further details.

The information on our data sheets is to assist customers in determining whether our products are suitable for their applications. The customers must satisfy themselves as to the suitability for specific cases. NCFI Polyurethanes warrants only that the material shall meet its specifications; this warranty is in lieu of all other written or unwritten, expressed or implied warranties and NCFI Polyurethanes expressly disclaims any warranty of merchantability, fitness for a particular purpose, or freedom from patent infringement. Accordingly, buyer assumes all risks whatsoever as to the use of the material. Buyer's exclusive remedy as to any breach of warranty, negligence or other claim shall be limited to the purchase price of the material. Failure to adhere strictly to any recommended procedures shall relieve NCFI Polyurethanes of all liability with respect to the material or the use thereof.



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