

ENERSHIELD

Pipe Jacketing Systems

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Pipe Jacketing Systems

- Designed to surpass even the worst environments.

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- Creates one continuous waterproof monolithic line – no traditional joints.



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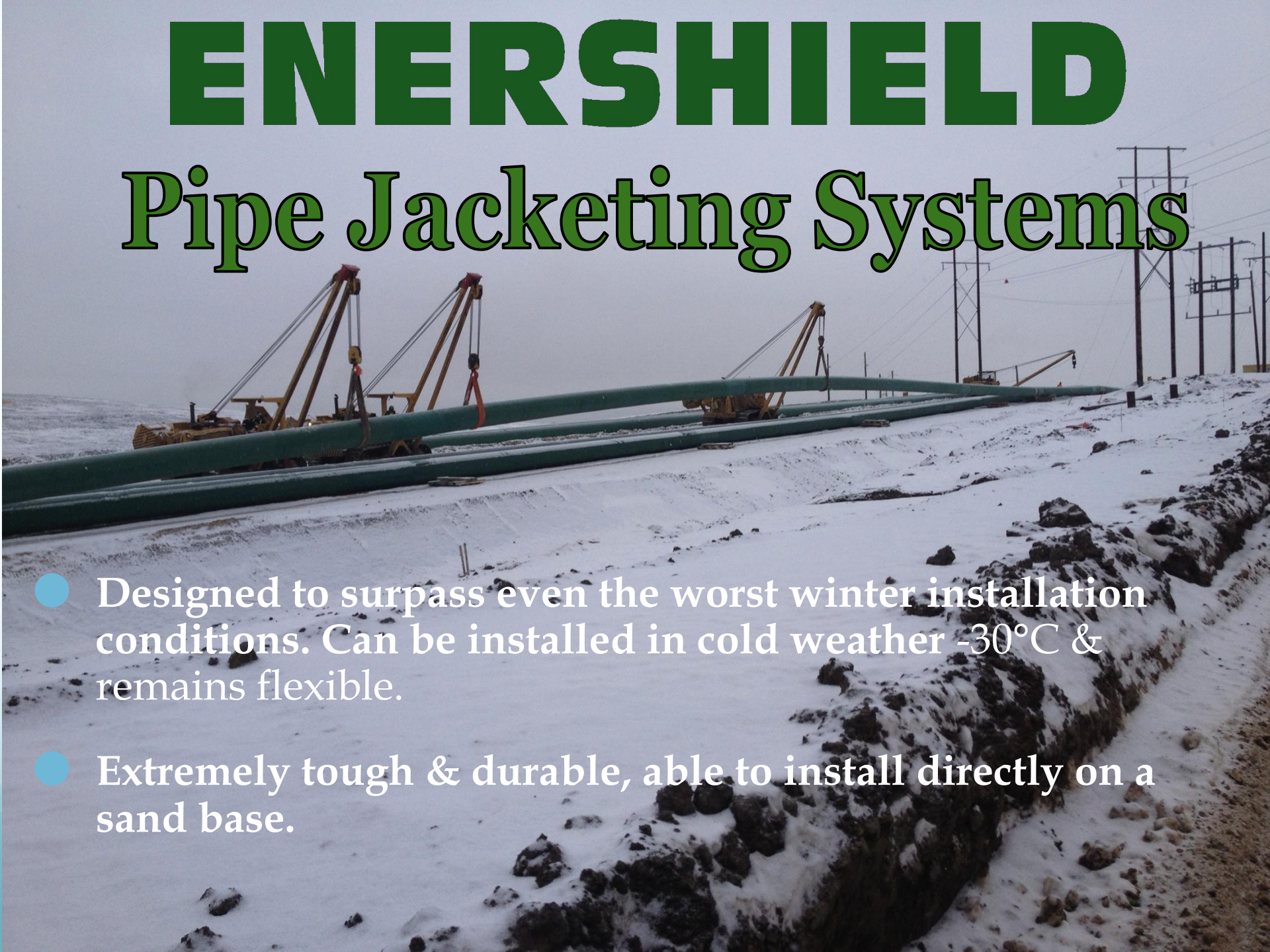
Pipe Jacketing Systems



- Bends can be shop applied - reduces construction costs and time
- Pipe Spools can be shipped without transportation damage caused by strapping

ENERSHIELD

Pipe Jacketing Systems

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- Designed to surpass even the worst winter installation conditions. Can be installed in cold weather -30°C & remains flexible.
 - Extremely tough & durable, able to install directly on a sand base.



**Custom Prefabrication
In the Shop**



**Onsite
Fabrication**

Custom Prefabrication

- Able to apply jacket on straight run pipe up to 80' lengths;
- Able to shop apply to:
 - Fabricated Spools
 - Degreed Bends
 - Fittings
 - Pipe Supports
- All Appenditures can have the same insulation system

ASTM TESTING STANDARDS

- **ASTM E84-97A – FLAME SPREAD/SMOKE DENSITY TEST**
 - **NFPA CLASS A AND UBC CLASS 1 RATING**
- **ASTM D4060 1000 CYCLES - ABRASION RESISTANCE**
 - **CS-17: 3MG LOSS**
- **ASTM D4541 – ADHESION**
 - **CONCRETE – 350 PSI**
 - **WOOD – 300 PSI**
 - **STEEL – 1850 PSI**

ASTM TESTING STANDARDS

- **ASTM D624 - TEAR STRENGTH**
 - 360 PLI
- **ASTM D638 - TENSILE ELONGATION**
 - 430%
- **ASTM D638 - TENSILE MODULUS**
 - 100% MODULES: 1550 PSI
 - 300% MODULES: 1950 PSI
- **ASTM D638 - TENSILE STRENGTH**
 - 2200 PSI

ASTM TESTING STANDARDS

- ASTM C531 – COEFFICIENT OF LINEAR THERMAL EXPANSION
 - (in/in/°F) 4×10^{-5}
- ASTM E96 – WATER VAPOR TRANSMISSION
 - 0.02 PERMEABILITY
- ASTM G53 – ULTRAVIOLET EXPOSURE (QUV)
 - 3800 HOUR TEST
- ASTM G26-96 – ULTRAVIOLET EXPOSURE (XENON ARC)
 - 1000 HOUR TEST

Chemical Resistance Testing

ASTM 3912

Chemical

12 Month Exposure

- | | |
|---------------|---|
| ● Methanol | S. swelling, < 48 hours |
| ● Gasoline | Slight surface change, no hardness loss |
| ● Diesel Fuel | No visible damage |
| ● Toluene | S. swelling, < 24 hours |
| ● MTBE | Slight surface change |
| ● 5% MTBE/ | Slight surface change |

Chemical Resistance Testing

ASTM 3912

Chemical

12 Month Exposure

Hydrochloric Acid

- 5% No visible damage
- 10% No visible damage

Phosphoric Acid

- 10% No visible damage

Ammonium Hydroxide

- 10% No visible damage
- 20% No visible damage

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Pipe Jacketing Systems

- ASTM E84-97A – FLAME SPREAD/SMOKE DENSITY TEST
- NFPA CLASS A AND UBC CLASS 1 RATING
- WINTER INSTALLATION AT TEMPERATURES AS COLD AS -30°C



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Pipe Jacketing Systems

**The Future Impact
Resistant Pipe
Jacketing System
Today**