Thermoflex® and PE Flex®
spoolable pipe
Reliable fluid transport in all environments
bakerhughes.com
Thermoflex® and PE Flex® composite pipe from Baker Hughes are highly reliable solutions for transporting hydrocarbons, refined fuels, chemicals, and water. Their reinforced thermoplastic is just as strong as steel, and much more durable—with the greatest strength-to-weight ratio, chemical compatibility, and paraffin build-up resistance in the industry. Our proprietary five-layer construction goes beyond conventional pipe options, standing up to high pressure, high temperature, and extreme corrosive environments.
Thermoflex

Thermoflex Plus
- For high H₂S, corrosive, and bacterial environments
- With an inner polyphenylene sulfide (PPS) layer, Thermoflex Plus resists harsh chemicals and is a superior choice for extremely corrosive environments

Thermoflex ECO
- An economical, high-performance solution for eco-friendly applications
- Combining HDPE with reinforced aramid fiber, Thermoflex ECO is ideal for fresh water, produced water, and disposal lines, including oil and gas flowlines

Thermoflex Couplings and fittings
- No welding required or makeup needed for flanges or thread joints
- Coupling options include NPT or BSPT threads, weld end, and API 6A/ASME B16.5 flange—all can mate with standard or custom pipe sizes
- Termination fittings connect to common oilfield infrastructure
- Available in carbon steel, 316 stainless steel, 2205 duplex stainless steel, or polyphenylene sulfide (PPS) coated

<table>
<thead>
<tr>
<th>Product</th>
<th>Outside diameter (in.)</th>
<th>Internal diameter (in.)</th>
<th>Max. pressure (psi)</th>
<th>Min. bend radius (ft)</th>
<th>Reel size (ft)</th>
<th>Reel weight (lb)</th>
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</thead>
<tbody>
<tr>
<td>Thermoflex 2.375 Plus</td>
<td>2.35</td>
<td>1.90</td>
<td>MAOP: 275, 500, 750</td>
<td>1,000, 1,500, 2,000</td>
<td>3.92, 0.3</td>
<td>3,704</td>
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<td>Thermoflex 3.0 Plus</td>
<td>3.05</td>
<td>2.52</td>
<td>MAOP: 275, 500, 750</td>
<td>1,000, 1,500</td>
<td>5.04</td>
<td>5,580</td>
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<td>Thermoflex 3.5 Plus</td>
<td>3.50</td>
<td>2.89</td>
<td>MAOP: 275, 500, 750</td>
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<td>5.63</td>
<td>6,279</td>
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<tr>
<td>Thermoflex 4.0 Plus</td>
<td>4.04</td>
<td>3.36</td>
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<td>6.73</td>
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<td>3.81</td>
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<td>Thermoflex 5.0 Plus</td>
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<td>MAOP: 275, 500, 750</td>
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<td>1,000, 1,500, 2,000</td>
<td>10.1</td>
<td>12.7</td>
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</table>

All products offered in 300°F or RT (raised temperature 180°F)
PE Flex Plus

- Low-pressure fluid transport, with hydrocarbon and paraffin resistance
- Providing major advantages over conventional HDPE pipe, PE Flex Plus is the best choice for long, continuous runs of fluids below 300 psi
- With a nylon liner protecting against hydrocarbon contamination, it requires no pressure derating for hydrocarbons, even at higher temperatures

PE Flex Plus RT

- Low-pressure transport of fluids up to 150°F
- It has all the benefits of PE Flex Plus, along with a nylon liner with a PE-RT backer to withstand even higher temperatures

Coupling options

Mechanical
With 10-times faster installation in any weather, this reliable method requires no special tools or extra time for heating or cooling. It’s suitable for new, used, or dirty pipe, providing connections that meet or exceed pipe pressure ratings.

Electrofusion
Featuring a lower per-unit cost, this method joins pipes by melting surfaces together. Suitable for all fluid types, it offers GPS traceability, superior corrosion resistance, and fusion consistency with no loss of pipe ID or joint strength.

TRIPLE-LAYER PROTECTION
1. Abrasion-resistant HDPE outer jacket
2. Tybond layer
3. Nylon liner

Deployment & Installation
Our in-house engineering and field-service team can deliver a cost-effective solution tailored to your project. We can take care of everything, or provide training and supervision for third-party contractors, operators, and other personnel.

Solid guarantees
All installations are backed by a full one-year warranty on all pipe and products. When Baker Hughes deploys or oversees the installation, the warranty is extended to two years for all connections.

Oil & gas applications
- Gathering lines
- Salt-water disposal lines
- Gas-lift lines
- Water/CO$_2$ floods
- Water transport
- Downhole tubulars
- Pipeline rehabilitation

Comprehensive service capabilities
- Application review
- Site assessment and preparation
- Pipe transport and logistics
- Staging and unspooling
- Installation—either by direct bury or pull-through methods
- Connection—including couplings and termination fittings
- Hydrostatic testing
- Backfilling and clean-up

PE Flex Plus and PE Flex RT pipe pressure ratings vs. temperature service with crude oil

<table>
<thead>
<tr>
<th>PE Flex Plus</th>
<th>Outside diameter (in.)</th>
<th>Internal diameter (in.)</th>
<th>Min. burst pressure (psi)</th>
<th>Min. temp. (°F)</th>
<th>Min. bend radius (ft)</th>
<th>Weight (lbs)</th>
<th>Length per reel (ft)</th>
<th>Loaded reel weight (lbs)</th>
<th>Reel size (ft)</th>
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</thead>
<tbody>
<tr>
<td>PE Flex Plus</td>
<td>2.375</td>
<td>1.706</td>
<td>240 (70°F)</td>
<td>&gt;600 (70°F)</td>
<td>140</td>
<td>4</td>
<td>0.66</td>
<td>8,850</td>
<td>12</td>
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<tr>
<td>PE Flex Plus</td>
<td>3.5</td>
<td>2.803</td>
<td>240 (70°F)</td>
<td>&gt;600 (70°F)</td>
<td>140</td>
<td>5.8</td>
<td>1.62</td>
<td>3,600</td>
<td>12</td>
</tr>
<tr>
<td>PE Flex Plus</td>
<td>4.5</td>
<td>3.372</td>
<td>240 (70°F)</td>
<td>&gt;600 (70°F)</td>
<td>140</td>
<td>7.5</td>
<td>2.93</td>
<td>2,300</td>
<td>12</td>
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<tr>
<td>PE Flex Plus</td>
<td>6.025</td>
<td>5.013</td>
<td>240 (70°F)</td>
<td>&gt;600 (70°F)</td>
<td>140</td>
<td>11</td>
<td>6.17</td>
<td>915</td>
<td>14.5</td>
</tr>
</tbody>
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Pressure ratings for regular single-wall polyethylene pipe are calculated in accordance with PPI TR-9 and Handbook for PE pipe.

Outside diameter (in.) | Internal diameter (in.) | Min. burst pressure (psi) | Min. temp. (°F) | Min. bend radius (ft) | Weight (lbs) | Length per reel (ft) | Loaded reel weight (lbs) | Reel size (ft) |
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<tbody>
<tr>
<td>PE Flex Plus RT 2.0</td>
<td>2.375</td>
<td>1.706</td>
<td>240 (70°F)</td>
<td>&gt;600 (70°F)</td>
<td>140</td>
<td>4</td>
<td>0.66</td>
<td>8,850</td>
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<tr>
<td>PE Flex Plus RT 3.0</td>
<td>3.5</td>
<td>2.803</td>
<td>240 (70°F)</td>
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<td>PE Flex Plus RT 4.0</td>
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<td>240 (70°F)</td>
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<td>140</td>
<td>7.5</td>
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<td>2,300</td>
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<td>240 (70°F)</td>
<td>&gt;600 (70°F)</td>
<td>140</td>
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