Large Diameter PE Pipe Coiling, Transport & Installation

Applications:

• Shale Gas Water Lines
• Gas Gathering Lines
• Utility Pipe Lines
• Mining Pipe Lines
• Industrial Lines
• Pipe Lining
Combining LV Technology with Unique Transportation System

LV technology can be used on all pipe sizes that are currently supplied in coils and it enables larger pipe diameters to be coiled and transported that have previously only been supplied in ‘sticks’.

PCT have commissioned the design of a specialised multi-trailer system that maximises the amount and size of pipe that can be transported without escort. Each trailer can be detached at intervals equal to the length of the coil on each trailer for efficient de-coiling and stringing using the minimum of welds. The trailers include integrated under-rollers to enable de-coiling directly from the trailers as free standing coils or pipes supported on steel reels.

Efficient Installation & Improved Integrity

The enormous benefits of transporting pipe in coils are achieved during the installation process. Installing long lengths of coiled pipe takes a fraction of the labour force that would be required for installing the same pipeline using the traditional ‘stick’ lengths. The number of butt welds is reduced by a factor of 10-20 greatly increasing the pipeline’s integrity whilst lowering maintenance costs. Trenchless ploughing is also made possible allowing for one of the most efficient pipe installation methods to be realised.

Safe De-Coiling

A transferable safety cage encloses one trailer at a time to allow safe de-coiling. Towing heads secure the pipe coil at each end. Once secured to external anchor points the straps are cut only as each layer becomes available. Either the site tractor towels the pipe end away from the trailer to un-wind or the trailer is towed along while the pipe end is anchored to a stationary point.

Typical Pipe Lengths on Reels

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Reel Diameter</th>
<th>Reel Width</th>
<th>Pipe Size</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metric</td>
<td>4.8m</td>
<td>3.5m</td>
<td>315mm</td>
<td>250m</td>
</tr>
<tr>
<td></td>
<td>4.8m</td>
<td>3.5m</td>
<td>250mm</td>
<td>400m</td>
</tr>
<tr>
<td></td>
<td>4.8m</td>
<td>3.5m</td>
<td>180mm</td>
<td>1250m</td>
</tr>
<tr>
<td>Imperial</td>
<td>16ft.</td>
<td>12ft.</td>
<td>12&quot;</td>
<td>800ft.</td>
</tr>
<tr>
<td></td>
<td>16ft.</td>
<td>12ft.</td>
<td>8&quot;</td>
<td>1,300ft.</td>
</tr>
<tr>
<td></td>
<td>16ft.</td>
<td>12ft.</td>
<td>6&quot;</td>
<td>4,000ft.</td>
</tr>
</tbody>
</table>

Introducing the latest development in transporting large diameter HDPE coils

Coil pipe up to DN250 (10” IPS)

PCT are specialists in large diameter coiling. Using our unique Low Ovality Coiling Technology pipe up to 250mm in diameter can be coiled and transported whilst maintaining acceptable levels of ovality.

Reel pipe up to DN315 (12” IPS)

Reels of HDPE pipe up to DN315 are also achievable using LV Technology to safely wind the pipe onto steel drums ready for transportation. An LV de-reeler attached to the trailer is then used onsite to straighten and re-round the pipe to less than 5% ovality prior to installation.

Reduce ovality & achieve more compact coil dimensions

Low Ovality (LV) Technology was developed by and remains unique to PCT. It enables high density polyethylene pipe (HDPE) to be coiled with greatly reduced ovality (typically less than 5%). Pipe may also be coiled at much smaller diameters allowing longer lengths to be obtained within existing coil dimensions or to increase the range in pipe sizes coiled.

Multi-Trailer System

LV technology can be used on all pipe sizes that are currently supplied in coils and it enables larger pipe diameters to be coiled and transported that have previously only been supplied in ‘sticks’.

Coil pipe up to DN250 (10” IPS)

PCT are specialists in large diameter coiling. Using our unique Low Ovality Coiling Technology pipe up to 250mm in diameter can be coiled and transported whilst maintaining acceptable levels of ovality.

Reel pipe up to DN315 (12” IPS)

Reels of HDPE pipe up to DN315 are also achievable using LV Technology to safely wind the pipe onto steel drums ready for transportation. An LV de-reeler attached to the trailer is then used onsite to straighten and re-round the pipe to less than 5% ovality prior to installation.

Reduce ovality & achieve more compact coil dimensions

Low Ovality (LV) Technology was developed by and remains unique to PCT. It enables high density polyethylene pipe (HDPE) to be coiled with greatly reduced ovality (typically less than 5%). Pipe may also be coiled at much smaller diameters allowing longer lengths to be obtained within existing coil dimensions or to increase the range in pipe sizes coiled.

Multi-Trailer System

PCT have commissioned the design of a specialised multi-trailer system that maximises the amount and size of pipe that can be transported without escort. Each trailer can be detached at intervals equal to the length of the coil on each trailer for efficient de-coiling and stringing using the minimum of welds. The trailers include integrated under-rollers to enable de-coiling directly from the trailers as free standing coils or pipes supported on steel reels.

Efficient Installation & Improved Integrity

The enormous benefits of transporting pipe in coils are achieved during the installation process. Installing long lengths of coiled pipe takes a fraction of the labour force that would be required for installing the same pipeline using the traditional ‘stick’ lengths. The number of butt welds is reduced by a factor of 10-20 greatly increasing the pipeline’s integrity whilst lowering maintenance costs. Trenchless ploughing is also made possible allowing for one of the most efficient pipe installation methods to be realised.

Safe De-Coiling

A transferable safety cage encloses one trailer at a time to allow safe de-coiling. Towing heads secure the pipe coil at each end. Once secured to external anchor points the straps are cut only as each layer becomes available. Either the site tractor towels the pipe end away from the trailer to un-wind or the trailer is towed along while the pipe end is anchored to a stationary point.
Equipment for plastic pipe, tube, hose & conduit manufacturing:
- Automatic coiling equipment
- Semiautomatic coiling equipment
- Off-line coiling technology
- Low Ovality Technology
- Drum winding equipment
- Bespoke coiling solutions

Equipment for subsea umbilical, flowline and cable manufacturing:
- Carousels, loading arms and tensioners
- Drum handling, moving and spooling equipment
- Drum take up & payoff stands
- Production machinery; S-Z lay machines, rotating taping heads, caterpillar haul-offs

Equipment for wire rope and large diameter cable manufacturing:
- Drum take up and payoff stands
- Turntables and spoolers
- Wire spooling and rewinding

Subsea umbilical, flowline and cable installation:
- Carousels, loading arms and tensioners
- Drum handling and spooling equipment
- Cable guides and transfer equipment