Weholite LP Couplings
Marley Pipe Systems | Your Value Partner

Marley Pipe Systems is the leading manufacturer and supplier of plastic pipe systems, offering the full solution for your needs within the Building, and Mining and Industrial markets in Sub-Saharan Africa.

As an Aliaxis company, we are committed to offering our clients economic value and uncompromising service with SAPPMA endorsed quality solutions backed by a comprehensive range of PVC and HDPE pipes, fittings and accessories.

Vision

To become the preferred and most respected distributor and manufacturer of quality plastic pipe systems for the Infrastructure (Mining, Industrial, Irrigation and Civil) and Building markets in Sub-Saharan Africa.

Mission

To grow responsibly towards becoming a truly regional (sub-Saharan Africa) player represented in major centres, manufacturing fast moving product ranges at local plants across the region as well as providing a wholesale offering on group and externally produced products.

Weholite LP Couplings

The Weholite LP Couplings, manufactured by Thomas Pipe Products, are designed and manufactured specifically for use with Weholite pipes. It is suited for low pressure, large diameter applications such as sewer, gravity or storm water pipelines. It is made from Stainless Steel with a Vulcanised Rubber Seal. Due to high-quality Rubber Seal and Stainless Steel construction components, Weholite LP Couplings have a design life of over 50 years, if installed correctly.

Advantages

- Extended life expectancy
- Proven technology ensures the accommodation of ground settlement
- Cost-effective
- Easy to install
- Light weight
- Leak tight
- Corrosion resistant

Weholite LP Couplings have a design life of over 50 years, if installed correctly.
When connecting large diameter pipes, it is imperative to ensure the coupling width is sufficient to handle the effects of thermal expansion and contraction, and handling damage that may be inflicted on the pipe end. In light of this, the Weholite LP Coupling is designed in widths of 300mm and 400mm, ensuring a leak-proof seal extending well beyond the pipe end.

<table>
<thead>
<tr>
<th>PIPE CD/ID (mm)</th>
<th>MAX. PIPE OD 2kN/msq (mm)</th>
<th>MAX. PIPE OD 4 kN/msq (mm)</th>
<th>WIDTH (mm)</th>
<th>T (mm)</th>
<th>WIDTH (mm)</th>
<th>T (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>280</td>
<td>318</td>
<td>318</td>
<td>300</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>300</td>
<td>334</td>
<td>341</td>
<td>300</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>350</td>
<td>385</td>
<td>404</td>
<td>300</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>400</td>
<td>439</td>
<td>454</td>
<td>300</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>450</td>
<td>484</td>
<td>505</td>
<td>300</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>500</td>
<td>555</td>
<td>565</td>
<td>300</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>560</td>
<td>616</td>
<td>638</td>
<td>300</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>600</td>
<td>665</td>
<td>677</td>
<td>300</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>700</td>
<td>765</td>
<td>790</td>
<td>300</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>750</td>
<td>840</td>
<td>840</td>
<td>300</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>800</td>
<td>878</td>
<td>903</td>
<td>300</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>900</td>
<td>980</td>
<td>1016</td>
<td>300</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1000</td>
<td>1105</td>
<td>1128</td>
<td>300</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1100</td>
<td>1177</td>
<td>1254</td>
<td>300</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1200</td>
<td>1305</td>
<td>1354</td>
<td>300</td>
<td>14</td>
<td>400</td>
<td>15</td>
</tr>
<tr>
<td>1250</td>
<td>1350</td>
<td>1400</td>
<td>300</td>
<td>14</td>
<td>400</td>
<td>15</td>
</tr>
<tr>
<td>1500</td>
<td>1685</td>
<td>1685</td>
<td>300</td>
<td>14</td>
<td>400</td>
<td>15</td>
</tr>
<tr>
<td>1800</td>
<td>2022</td>
<td>2022</td>
<td>300</td>
<td>14</td>
<td>400</td>
<td>15</td>
</tr>
</tbody>
</table>

AVAILABLE ONLY ON REQUEST
<table>
<thead>
<tr>
<th>COMPONENT NAME</th>
<th>SPECIFICATION FOR MATERIAL OF CONSTRUCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 T-washer</td>
<td>Stainless Steel AISI 304 or 316</td>
</tr>
<tr>
<td>2 Captivated T-bolt head</td>
<td>Stainless Steel AISI 304 or 316</td>
</tr>
<tr>
<td>3 Bolt loop</td>
<td>Stainless Steel AISI 304 or 316</td>
</tr>
<tr>
<td>4 T-bolt shank</td>
<td>Stainless Steel AISI 304 or 316</td>
</tr>
<tr>
<td>5 Bolting hook</td>
<td>Stainless Steel AISI 304 or 316</td>
</tr>
<tr>
<td>6 Locating spacer</td>
<td>Polyethylene 300</td>
</tr>
<tr>
<td>7 Flat washer</td>
<td>Stainless Steel AISI 304 or 316</td>
</tr>
<tr>
<td>8 Hex nut</td>
<td>Stainless Steel AISI 304 or 316</td>
</tr>
<tr>
<td>9 Worm drive</td>
<td>Stainless Steel AISI 304 or 316</td>
</tr>
<tr>
<td>10 Elastomeric seal</td>
<td>EPDM</td>
</tr>
<tr>
<td>11 Rubber guide</td>
<td>EPDM</td>
</tr>
<tr>
<td>12 Outside clamping band</td>
<td>Stainless Steel AISI 304 or 316</td>
</tr>
<tr>
<td>13 Sealing rib</td>
<td>EPDM</td>
</tr>
<tr>
<td>14 Inner clamping band</td>
<td>Stainless Steel AISI 304 or 316</td>
</tr>
</tbody>
</table>
Construction Summary

LP Coupling Rubber-sleeve Joints

Rubber-sleeve LP Couplings are designed for jointing pipes in stormwater, sewer and other types of non-pressure applications in the construction, repair and maintenance of pipelines. These include:

- Watertight jointing
- As a joint for plain-ended pipes
- Repair of existing pipelines
- As an adapter between pipes of different sizes or materials

LP Coupling Process: Rubber-sleeve Joints

a. Ensure that the bedding will not interfere with the couplings and that the pipe ends are clean.
b. Pull the coupling over the joint so that it is centred.
c. Check the alignment and level of the newly installed pipe.
d. Tighten all bolt tensioners evenly so that all the slack is taken up before tightening fully to 45Nm or refer to the sticker.
e. The embedment should then be replaced to give compaction values approximately equal to those immediately adjacent to the repair.

Prior to completing the backfill of the pipe, retension the bolts. Ideally, LP Couplings should be retensioned on the morning after the repair has been carried out.

Deviation from Straightness

It is normal practice in sewerage and drainage that pipes are installed in straight lines. However, as Weholite pipes are longitudinally flexible, it is possible to bend them if required during the installation. In such cases, minor misalignments of the pipeline can be accommodated in the pipe itself by bending. The minimum permissible bending radius for Weholite pipes under normal installation conditions = 50 * D_e (outside diameter). There may not be any bending at the socket. An acceptable bending radius can be maintained by lateral supports against the side of the trench. Special care should be taken when bending pipes at low temperatures, and the joint must be protected against any extra stress.

Large angular deflections are permitted in the case of joints specifically designed to accommodate such deflections. The manufacturer of the coupling will specify the permitted angular deflection.

The largest permitted angular deflection in the elastomer ring seal joint (the design angle) is:

- $2^\circ$ for $d_e < 315\text{mm}$
- $1.5^\circ$ for $315 \leq d_e \leq 630$
- $1^\circ$ for $d_e > 630$

Weholite LP Coupling Jointing Process
Installation Guide

The following is a step-by-step guide to installing Weholite LP Couplings. If installed correctly, the couplings should have a design life of more than 50 years.

1. Pipeline trench. 8m gap between two pipe ends.
2. Clear trench, prepare bedding.
3. Compact bedding.
4. Lay pipe length on wooden planks, making it easy to position whilst keeping the pipe ends clean.
5. Prepare spigot end of Weholite pipe. Chamfer end.
6. Bring in last full 6m pipe length.
Insert Weholite pipe rubber seal.

Grease rubber seal.

Grease pipe spigot end for easy insertion into socket of previous pipe length. The pipe is very light in weight and is easy to bring into position manually.

Saw off the last Weholite socket with a wood saw. This leaves a gap between the two plain ended pipes to be joined using the Weholite Low Pressure (LP) Couplings.

Push greased pipe spigot into greased pipe socket of adjacent pipe end.

Grease the ends of the pipe, allowing the rubber to slide easily over the pipe end.

Clean the pipe ends to be joined thoroughly.

Mark the pipe ends clearly in order to centralise the LP Coupling over the pipe joint.

Position protective backing board over pipe end.
Strip the LP Coupling. Ensure that the coupling components remain clean and free of dirt and mud.

Lubricate the rubber seal.

Position the join in the rubber seal at the top of the pipe.

Measure the gap between the two pipe ends.

Before cutting the spool pipe piece to span the gap between the pipe ends, be sure to allow for a 20mm setting gap at each pipe end.

In this example the gap = 2840mm. Subtract the 20mm gap at both ends and it equates to a required spool pipe piece length of 2800mm.

It is necessary to allow for a 20mm setting gap at each pipe end as it greatly assists ease of assembly and the long term effects of ground settlement, expansion and contraction, and pipe setting angularity.

Cut the spool pipe piece and drop it into the trench between the two plain ended pipe ends that already have the LP Coupling rubber seals in place.

13

14

Gently push the entire rubber seal over stationary pipe end.

The grease will assist the rubber in sliding easily over the pipe.

Repeat this procedure on the other stationary pipe end.

Both stationary pipe ends should now have the rubber seal of the LP Coupling entirely over the pipe end.

Technical Queries? Contact us or visit our website! www.marleypipesystems.co.za
16. Position the spool pipe piece, allowing a 20mm setting gap.

Grease spool pipe ends.

17. Slide the rubber seals over the setting gap using the marks on the pipe to centralise the seal.

Grease the LP Coupling rubber seal where the inner stainless steel band is to be located.

This is important to ensure the stainless steel band does not grab or stick to the rubber seal during tightening.

18. Wrap the central stainless steel band around the rubber seal. Take care that the shell does not come into contact with mud or dirt.

Locate the tightening mechanism at the top of the pipe.

Ensure the central band is located within the rubber ribs on the seal.

Begin tightening the central band.

Take care not to over tighten.

19. Grease the LP Coupling rubber seal between the two outer ribs where the outer stainless steel straps are to be located.

This is important to ensure the stainless steel strips do not grab or stick to the rubber seal during tightening.
Wrap the stainless steel outer strap around the rubber seal. Take care that the shell does not come into contact with mud or dirt.

Locate the tightening mechanism at the top of the pipe.

Ensure the outer strips are located within the rubber ribs on the seal.

Begin tightening the coupling.
Take care not to over tighten.

---

When the outer straps are tight, it is good practice to re-tighten the inner stainless steel band and then finally re-check the outer steel straps are tight.

Ensure both couplings are tight and the pipes remain correctly aligned.

Finally, backfill the connection.
Contact Marley Pipe Systems

Mining & Industrial Head Office
1 Piet Pretorius Street,
Rosslyn, Pretoria
Tel: 0861 MARLEY (627539)

Branch Offices
Bloemfontein: +27 51 434 2331/5
Cape Town: +27 21 045 0050
Durban: +27 31 791 5800
East London: +27 43 726 6505
George: +27 44 874 1160
Jet Park (MEGAFLEX): +27 11 823 1160
Klerksdorp: +27 18 462 2655
Namibia: +264 61 226590
Nelspruit: +27 13 753 2571
Polokwane: +27 15 292 4141
Port Elizabeth: +27 41 045 0998
Witbank (Mining): +27 13 656 1391
Zimbabwe +263 4 663256

www.marleypipesystems.co.za

FOR TECHNICAL SALES SUPPORT:
0861 MARLEY (627 539)
technical@marleyps.co.za