Premier Tank Services Ltd specialises in seals and drain systems for floating roof storage tanks. The Management Team has over 40 years experience of this business and is therefore able to provide impartial advice on the selection of the most suitable sealing system for a customer’s needs taking into consideration service and operational requirements, climatic conditions and tank shell distortion.

Premier Tank Services is able to offer either complete seals or just replacement parts for virtually any of the multitude of seal designs that have been introduced over the years.

With its own in-house manufacturing facilities Premier Tank Services can offer a speedy turnaround in the event of an emergency situation.

The materials used in the seal construction have been proven in service around the world over many years.

Premier Tank Services specialise in the provision of seals for older tanks that suffer from tank shell distortion.

When required, seal installation can be arranged by the provision of either a complete team of experienced personnel or, if preferred, just a supervisor to assist a local contractor.

Through its network of associates Premier Tank Services can provide additional products and services, some of which are listed below :-

- Roof Support Leg Socks
- Guide Pole Seals
- Tank Mixers
- Internal Floating Roofs - Steel or Aluminium
- Floating Suction Lines and Skimmers
- Tank Inspection

Premier Tank Services operates a quality management system certified to BS:EN ISO 9001:2000 and its products comply with all the relevant international standards.

www.premierseals.co.uk
ROOF SEALS - DRAIN SYSTEMS - ROOF SUPPORT LEG SOCKS
GUIDE POLE SEALS - TANK MIXERS - INTERNAL FLOATING ROOFS
FLOATING SUCTION LINES - SKIMMERS - TANK INSPECTIONS

PRIMARY SEALS
- PT-1 MECHANICAL SEAL
- PT-P1 MECHANICAL SEAL
- TUBESEAL
- GRAVER FOAM SEAL
- FOAM SEALS

SECONDARY SEALS
- PT-S1 SECONDARY SEAL
- PT-S2 SECONDARY SEAL
- PT-S3 SECONDARY SEAL

DOUBLE SEALS
- PT-D1 DOUBLE SEAL
- PT-D2 DOUBLE SEAL
- PT-D3 DOUBLE SEAL

DRAIN SYSTEMS
- FLEXIBLE HOSE DRAIN SYSTEM
- ARTICULATED DRAIN SYSTEM
- BENDING HOSE DRAIN SYSTEM

ANCILLARY PRODUCTS
- INTEGRAL FOAM DAM
- PTS LEG SOCKS
- GUIDE POLE SLEEVE
**Key Component Materials:**

<table>
<thead>
<tr>
<th>Number</th>
<th>Component</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sealing Ring (Shoe Plates)</td>
<td>1.6mm Galvanised Steel or 1.2mm Stainless Steel</td>
</tr>
<tr>
<td>2</td>
<td>Counterweights</td>
<td>Carbon Steel or Carbon Steel with hot dip Galvanised coating</td>
</tr>
<tr>
<td>3</td>
<td>Counterweight Arms</td>
<td>Carbon Steel or Carbon Steel with hot dip Galvanised coating</td>
</tr>
<tr>
<td>4</td>
<td>Shoe Arms</td>
<td>Carbon Steel or Carbon Steel with hot dip Galvanised coating</td>
</tr>
<tr>
<td>5</td>
<td>Hinge Brackets</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>6</td>
<td>M.S. Guides</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>7</td>
<td>M.S. Pins</td>
<td>Carbon Steel or Carbon Steel with hot dip Galvanised coating</td>
</tr>
<tr>
<td>8</td>
<td>Spreader Rod Cleats</td>
<td>Carbon Steel, Carbon Steel with hot dip Galvanised coating or Type 304 Stainless Steel</td>
</tr>
<tr>
<td>9</td>
<td>Spreader Rods</td>
<td>Carbon Steel or Carbon Steel with hot dip Galvanised coating</td>
</tr>
<tr>
<td>10</td>
<td>Fabriclamps</td>
<td>Type 304 Stainless Steel</td>
</tr>
<tr>
<td>11</td>
<td>Rim Clamp Bars</td>
<td>Carbon Steel with hot dip Galvanised coating or Stainless Steel</td>
</tr>
<tr>
<td>12</td>
<td>Continuous Seal</td>
<td>PVC Nitrile/Nylon, PTFE/Glass, Viton/Nylon or special “Fireshield” material</td>
</tr>
<tr>
<td>13</td>
<td>Shunts</td>
<td>Stainless Steel</td>
</tr>
</tbody>
</table>

**Seal Type:** Primary Seal

**Description:** Mechanical Pantograph Shoe Seal.

**Used On:** External Floating Roof Tanks.

**Rim Space:** Nominal rim spaces of 200 ± 125mm or 300 ± 225mm.

**Service:** Suitable for all products with correct material selection.

**API 650 Compliant:** Yes

**Codres Compliant:** Yes

**Weight:** 43 Kg/m. (Typical based on 200mm rim space)

**Advantages:**
- The counterweight system retains its sealing pressure throughout its service life.
- Suitable for service with aggressive products.
- Proven in service for over forty years.
- May be attached to either a vertical or horizontal fixing point.

**Disadvantages:**
- Not recommended for service on tanks with appreciable tank shell distortion.
- Unsuitable for tanks where shell coatings have been applied.

Premier Tank Services Ltd., Premier House, 40 Rochdale Road, Heywood, Lancashire, United Kingdom. OL10 1LE.
Tel: +44 (0)1706 629376, Fax: +44 (0)1706 691244.
Web: www.premierseals.co.uk, email: sales@premierseals.co.uk
Key Component Materials:

1. Sealing Ring (Shoe Plates) - 1.6mm Galvanised Steel or 1.2mm Stainless Steel
2. Rim Mounting Channels - Galvanised Steel or 300 Series Stainless Steel
3. Shoe Channel Arms - Galvanised Steel or 300 Series Stainless Steel
4. Pantograph Channels - Galvanised Steel or 300 Series Stainless Steel
5. V-Shape Flat Springs - T302 St.Steel
6. Intershoe Leaf Springs - T301 St.Steel
7. Spreader Rod Cleats - Galvanised Steel or 300 Series Stainless Steel
8. Spreader Rods - Galvanised Steel or 300 Series Stainless Steel
9. Clevis Pins - T303 St.Steel
10. Fabriclamps - Galvanised Steel or 300 Series Stainless Steel
11. Rim Clamp Bars - Carbon Steel with hot dip Galvanised coating or Stainless Steel
12. Continuous Seal - PVC Nitrile/Nylon, PTFE/Glass, Viton/Nylon or special “Fireshield” material
13. Shunts - Stainless Steel

Seal Type: Primary Seal
Description: Mechanical Pantograph Shoe Seal.
Used On: External Floating Roof Tanks.
Rim Space: Nominal rim space of 200 ± 125mm (can be adapted to suit larger nominal rim spaces).
Service: Suitable for all products with correct material selection.
API 650 Compliant: Yes
Codres Compliant: Yes
Weight: 22.5 Kg’s/m. (Typical based on 200mm rim space)

Advantages:
- Can be installed from top of pontoon roof.
- No hot work (welding) required during installation.
- Unique spring design to ensure optimum service life.
- Suitable for service with aggressive products.
- May be attached to either a vertical or horizontal fixing point.

Disadvantages:
- Not recommended for service on tanks with appreciable tank shell distortion.
- Unsuitable for tanks where shell coatings have been applied.

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**Key Component Materials:**

1. **Scuffband**  
   4.5mm PVC Nitrile on Nylon (serrated on tank shell side)

2. **Tubeseal**  
   1.6mm PVC Nitrile on Nylon

3. **Lower Clamp Bars**  
   Carbon Steel or Carbon Steel with hot dip Galvanised coating

4. **Rim Clamp Bars**  
   Carbon Steel with hot dip Galvanised coating or Stainless Steel

5. **Bumper Bars**  
   Carbon Steel

6. **Tube Sealing Liquid**  
   Kerosene or other Hydrocarbon

7. **Lower Mounting Angle**  
   Carbon Steel 65 x 50 x 6 L (or similar)

* - To be supplied on site by refinery.

** - Not in standard scope of supply but can be supplied if required.

---

**Seal Type**  
**Primary Seal**

**Description**  
Product Mounted Type Liquid Filled Primary Seal.

**Used On**  
External Floating Roof Tanks.

**Rim Space**  
Nominal rim spaces up to 275mm.

**Service**  
Suitable for all products with correct material selection.

**API 650 Compliant**  
Yes

**Codres Compliant**  
Yes

**Weight**  
16 Kg/s/m. (Typical based on 200mm rim space). Weight includes Lower Mounting Angle BUT excludes Sealing Liquid.

**Advantages**  
Capable of compensating for tank shell distortion.

Product mounted and therefore in the highest efficiency category as defined in API Publication Chapter 19.

Soft sealing pressure against the tank shell.

May be attached to either a vertical or horizontal fixing point.

**Disadvantages**  
None if correctly designed, manufactured and installed.
**Key Component Materials :-**

<table>
<thead>
<tr>
<th>Component</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Seal Envelope</td>
<td>1.6mm/2mm PVC Nitrile on Nylon, 1mm PU on Nylon or 1mm Viton on Nylon</td>
</tr>
<tr>
<td>2 Foam Blocks</td>
<td>Polyetherurethane</td>
</tr>
<tr>
<td>3 Hold Down Plates</td>
<td>1.6mm/3mm Galvanised Steel or Stainless Steel</td>
</tr>
<tr>
<td>4 Rim Clamp Bars</td>
<td>Carbon Steel with hot dip Galvanised coating or Stainless Steel</td>
</tr>
<tr>
<td>5 Bumper Bars</td>
<td>Carbon Steel</td>
</tr>
</tbody>
</table>

**Seal Type**
- Primary Seal

**Description**
- Vapour OR Product Mounted Type Foam Filled Primary Seal

**Used On**
- External Floating Roof Tanks or Internal Pan Deck Floating Roof Tanks

**Rim Space**
- Nominal rim spaces of 120mm, 150mm, 200mm and 250mm

**Service**
- Suitable for all products with correct material selection

**API 650 Compliant**
- Yes

**Codres Compliant**
- Yes

**Weight**
- 7 Kg’s/m. (Typical based on 200mm rim space)

**Advantages**
- As with all foam seals a soft sealing pressure is exerted against the tank shell and, if the seal is product mounted, its efficiency is as high as possible as defined in API Chapter 19.
- May be attached to either a vertical or horizontal fixing point.

**Disadvantages**
- As with all foam seals the seal envelope can be subject to damage by sharp points on the tank shell leading to the tank contents coming into contact with the foam blocks causing seal failure. This may also occur if care is not taken when making the final joint in the seal envelope.
<table>
<thead>
<tr>
<th>Seal Name</th>
<th>Deltaseal</th>
<th>Everseal</th>
<th>PT-7 Foam Seal</th>
<th>PT-8 Foam Seal</th>
<th>PT-9 Foam Seal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seal Type</td>
<td>Product Mounted Seal</td>
<td>Product Mounted Seal</td>
<td>Product Mounted Seal</td>
<td>Vapour or Product Mounted Seal</td>
<td>Vapour Mounted Seal</td>
</tr>
<tr>
<td>Used On</td>
<td>External Floating Roof Tanks</td>
<td>External Floating Roof Tanks</td>
<td>External Floating Roof Tanks</td>
<td>Internal Pan Deck Roof Tanks</td>
<td>External Floating Roof Tanks</td>
</tr>
<tr>
<td>Rim Space</td>
<td>Nominal rim spaces of 125mm, 150mm, 200mm and 270mm</td>
<td>7” (178mm) nominal</td>
<td>203mm nominal</td>
<td>115mm to 140mm nominal</td>
<td>203mm nominal</td>
</tr>
<tr>
<td>Service</td>
<td>Suitable for all products with correct material selection.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>API 650 Compliant</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Codres Compliant</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Weight</td>
<td>Approx 12 kg’s/m (200mm R/S)</td>
<td>Approx 8.5 kg’s/m</td>
<td>Approx 20 kg’s/m</td>
<td>Approx 7 kg’s/m</td>
<td>Approx 11 kg’s/m</td>
</tr>
<tr>
<td>Advantages</td>
<td>As with all foam seals a soft sealing pressure is exerted against the tank shell and, if the seal is product mounted, it’s efficiency is as high as possible as defined in API Chapter 19.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disadvantages</td>
<td>As with all foam seals the seal envelope can be subject to damage by sharp points on the tank shell leading to the tank contents coming into contact with the foam blocks causing seal failure. This may also occur if care is not taken when making the final joint in the seal envelope.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**PT-S1 SECONDARY SEAL**

**Seal Type**
Secondary Seal

**Description**
Rim Mounted Compression Plate Type Secondary Seal.

**Used On**
External Floating Roof Tanks.

**Rim Space**
Up to 250mm nominal. Values in excess of this require modifications to the pontoon rim.

**Service**
Suitable for all products with correct material selection.

**API 650 Compliant**
Yes

**Codres Compliant**
Yes

**Weight**
12.5 Kg/m. (Typical based on 200mm rim space)

**Advantages**
- Large contact depth between the seal wiper and tank shell.
- Continuous vapour barrier membrane for optimum sealing efficiency.
- Overlapping compression plates give a more flexible seal, better able to compensate for tank shell distortion.
- No metallic components can make contact with the tank shell except the shunts as specified in API 2003.
- The seal has a smooth profile that will allow it to re-enter the tank without any tendency to hang-up should the tank be accidentally over filled.
- Seal wiper mounting bolts are pre-fixed during manufacture for ease of installation.
- Seal wiper is supplied in 25m lengths to minimise the number of required joints.
- May be fitted above any conventional Primary Seal to form a double seal.
- May be attached to either a vertical or horizontal fixing point.

**Key Component Materials**:

1. **Compression Plates**
   - 1.6mm Galvanised Steel or 1.5mm/1.2mm Stainless Steel

2. **Z-Clamp Bars**
   - 1.6mm Galvanised Steel or 1.5mm/1.2mm Stainless Steel

3. **L-Clamp Bars**
   - 1.6mm Galvanised Steel or 1.5mm/1.2mm Stainless Steel

4. **Channel Clamp Bars**
   - 3mm Galvanised Steel or 2.5mm Stainless Steel

5. **Wiper**
   - Nitrile rubber extrusion

6. **Vapour Barrier Membrane**
   - Polyurethane on Nylon, PVC Nitrile on Nylon, PTFE on Glass or special “Fireshield” material

7. **Shunts**
   - Stainless Steel

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**PT-S2 SECONDARY SEAL**

<table>
<thead>
<tr>
<th>Seal Type</th>
<th>Secondary Seal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Rim Mounted Compression Plate Type Secondary Seal.</td>
</tr>
<tr>
<td>Used On</td>
<td>External Floating Roof Tanks.</td>
</tr>
<tr>
<td>Rim Space</td>
<td>Up to 250mm nominal. Values of excess to this require modifications to the pontoon rim.</td>
</tr>
<tr>
<td>Service</td>
<td>Suitable for all products with correct material selection.</td>
</tr>
<tr>
<td>API 650 Compliant</td>
<td>Yes</td>
</tr>
<tr>
<td>Codres Compliant</td>
<td>Yes</td>
</tr>
<tr>
<td>Weight</td>
<td>11.5 Kg’s/m. (Typical based on 200mm rim space)</td>
</tr>
<tr>
<td>Advantages</td>
<td>A relatively low cost seal. Can be supplied without a vapour barrier membrane as above or with a vapour barrier membrane (PT-S2-V version). Seal wiper is supplied in 25m lengths to minimise the number of required joints. May be fitted above any conventional Primary Seal to form a double seal. May be attached to either a vertical or horizontal fixing point.</td>
</tr>
<tr>
<td>Disadvantages</td>
<td>When used without a vapour barrier membrane this seal becomes more rigid and less able to compensate for tank shell distortion. The wiper seal has a small area of contact with the tank shell.</td>
</tr>
</tbody>
</table>

**Key Component Materials :-**

| 1 | Compression Plates | 1.6mm Galvanised Steel or 1.5mm/1.2mm Stainless Steel |
| 2 | Y-Section Wiper | Nitrile rubber extrusion |
| 3 | Shunts | Stainless Steel |
| 4 | Anti-Hang Ups | 1.6mm Galvanised Steel or 1.5mm/1.2mm Stainless Steel |
| 5 | Channel Clamp Bars | 3mm Galvanised Steel or 2.5mm Stainless Steel |
| 6 | Compression Plate Gasket | 5mm thk SAB Polyethylene |
**PT-S3 SECONDARY SEAL**

<table>
<thead>
<tr>
<th>Seal Type</th>
<th>Secondary Seal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Rim Mounted Compression Plate Type Secondary Seal.</td>
</tr>
<tr>
<td><strong>Used On</strong></td>
<td>External Floating Roof Tanks.</td>
</tr>
<tr>
<td><strong>Rim Space</strong></td>
<td>Up to 250mm nominal. Values in excess of this require modifications to the pontoon rim.</td>
</tr>
<tr>
<td><strong>Service</strong></td>
<td>Suitable for all products with correct material selection.</td>
</tr>
<tr>
<td><strong>API 650 Compliant</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Codres Compliant</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>10.5 Kg’s/m. (Typical based on 200mm rim space)</td>
</tr>
<tr>
<td><strong>Advantages</strong></td>
<td>A relatively low cost seal. Can be supplied without a vapour barrier membrane as above or with a vapour barrier membrane (PT-S3-V version). Seal wiper is supplied in 25m lengths to minimise the number of required joints. May be fitted above any conventional Primary Seal to form a double seal. May be attached to either a vertical or horizontal fixing point.</td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td>When used without a vapour barrier membrane this seal becomes more rigid and less able to compensate for tank shell distortion. The wiper seal has a small area of contact with the tank shell.</td>
</tr>
</tbody>
</table>

**Key Component Materials :-**

1. **Compression Plates**
   - 1.6mm Galvanised Steel or 1.5mm/1.2mm Stainless Steel

2. **Double Tip Type Wiper**
   - Nitrile rubber extrusion

3. **Shunts**
   - Stainless Steel

4. **Anti-Hang Ups**
   - Stainless Steel

5. **Channel Clamp Bars**
   - 3mm Galvanised Steel or 2.5mm Stainless Steel

6. **Compression Plate Gasket**
   - 5mm thk SAB Polyethylene

---

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Web: www.premierseals.co.uk, email: sales@premierseals.co.uk
Key Component Materials:

1. Primary Compression Plates: 1.6mm Galvanised Steel or 1.5mm/1.2mm Stainless Steel
2. Primary Z-Clamp Bars: 1.6mm Galvanised Steel or 1.5mm/1.2mm Stainless Steel
3. Primary Rim Clamp Bars: Carbon Steel with hot dip Galvanised coating or Stainless Steel
4. Skirt Weights: Carbon Steel
5. Bumper Bars: Carbon Steel
6. Primary Wiper: Nitrile rubber extrusion
7. Vapour Barrier Membrane/Skirt: Polyurethane on Nylon, PVC Nitrile on Nylon, PTFE on Glass or special “Fireshield” material
8. Compression Plates: 1.6mm Galvanised Steel or 1.5mm/1.2mm Stainless Steel
9. Z-Clamp Bars: 1.6mm Galvanised Steel or 1.5mm/1.2mm Stainless Steel
10. L-Clamp Bars: 1.6mm Galvanised Steel or 1.5mm/1.2mm Stainless Steel
11. Channel Clamp Bars: 3mm Galvanised Steel or 2.5mm Stainless Steel
12. Wiper: Nitrile rubber extrusion
13. Vapour Barrier Membrane: Polyurethane on Nylon, PVC Nitrile on Nylon, PTFE on Glass or special “Fireshield” material
14. Shunts: Stainless Steel

Seal Type: Double Seal

Description: Rim Mounted Compression Plate Type Double Seal.

Used On: External Floating Roof Tanks.

Rim Space: Up to 250mm nominal. Values in excess of this require modifications to the pontoon rim.

Service: Suitable for all products with correct material selection.

API 650 Compliant: Yes

Codres Compliant: Yes

Weight: 25 Kg/m. (Typical based on 200mm rim space)

Advantages:

- Large contact depth between the seal wiper and tank shell.
- Continuous vapour barrier membrane for optimum sealing efficiency.
- Overlapping compression plates give a more flexible seal, better able to compensate for tank shell distortion.
- No metallic components can make contact with the tank shell except the shunts as specified in API 2003.
- The seal has a smooth profile that will allow it to re-enter the tank without any tendency to hang-up should the tank be accidentally over filled.
- Seal wiper mounting bolts are pre-fixed during manufacture for ease of installation.
- Seal wiper is supplied in 25m lengths to minimise the number of required joints.
- May be attached to either a vertical or horizontal fixing point.
**PT-D2 DOUBLE SEAL**

**Key Component Materials :-**

1. **Primary Compression Plates**  
   - 1.6mm Galvanised Steel or 1.5mm/1.2mm Stainless Steel
2. **Primary Y-Section Wiper**  
   - Nitrile rubber extrusion
3. **Vapour Skirt**  
   - Polyurethane on Nylon, PVC Nitrile on Nylon or PTFE on Glass
4. **Skirt Weights**  
   - Carbon Steel
5. **Bumper Bars**  
   - Carbon Steel
6. **Primary Rim Clamp Bars**  
   - Carbon Steel with hot dip Galvanised coating or Stainless Steel
7. **Primary Compression Plate Gasket**  
   - 5mm thk SAB Polyethylene
8. **Compression Plates**  
   - 1.6mm Galvanised Steel or 1.5mm/1.2mm Stainless Steel
9. **Y-Section Wiper**  
   - Nitrile rubber extrusion
10. **Shunts**  
    - Stainless Steel
11. **Anti-Hang Ups**  
    - 1.6mm Galvanised Steel or 1.5mm/1.2mm Stainless Steel
12. **Channel Clamp Bars**  
    - 3mm Galvanised Steel or 2.5mm Stainless Steel
13. **Compression Plate Gasket**  
    - 5mm thk SAB Polyethylene

**Seal Type**  
- Double Seal

**Description**  
- Rim Mounted Compression Plate Type Double Seal.

**Used On**  
- External Floating Roof Tanks.

**Rim Space**  
- Up to 250mm nominal. Values in excess of this require modifications to the pontoon rim.

**Service**  
- Suitable for all products with correct material selection.

**API 650 Compliant**  
- Yes

**Cadres Compliant**  
- Yes

**Weight**  
- 23 Kg's/m. (Typical based on 200mm rim space)

**Advantages**  
- A relatively low cost seal. Can be supplied without vapour barrier membranes as above or with vapour barrier membranes (PT-D2-V version).
- Seal wiper is supplied in 25m lengths to minimise the number of required joints.
- May be attached to either a vertical or horizontal fixing point.
- When used without vapour barrier membranes or skirt this seal becomes more rigid and less able to compensate for tank shell distortion.
- The wiper seals have a small area of contact with the tank shell.

**Disadvantages**  
- When used without vapour barrier membranes or skirt this seal becomes more rigid and less able to compensate for tank shell distortion.
**PT-D3 DOUBLE SEAL**

**Key Component Materials :-**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Primary Compression Plates</td>
</tr>
<tr>
<td>2</td>
<td>Primary Double Tip Type Wiper</td>
</tr>
<tr>
<td>3</td>
<td>Vapour Skirt</td>
</tr>
<tr>
<td>4</td>
<td>Skirt Weights</td>
</tr>
<tr>
<td>5</td>
<td>Bumper Bars</td>
</tr>
<tr>
<td>6</td>
<td>Primary Rim Clamp Bars</td>
</tr>
<tr>
<td>7</td>
<td>Primary Compression Plate Gasket</td>
</tr>
<tr>
<td>8</td>
<td>Compression Plates</td>
</tr>
<tr>
<td>9</td>
<td>Double Tip Type Wiper</td>
</tr>
<tr>
<td>10</td>
<td>Shunts</td>
</tr>
<tr>
<td>11</td>
<td>Anti-Hang Ups</td>
</tr>
<tr>
<td>12</td>
<td>Channel Clamp Bars</td>
</tr>
<tr>
<td>13</td>
<td>Compression Plate Gasket</td>
</tr>
</tbody>
</table>

**Seal Type**
- Double Seal

**Description**
- Rim Mounted Compression Plate Type Double Seal.

**Used On**
- External Floating Roof Tanks.

**Rim Space**
- Up to 250mm nominal. Values in excess of this require modifications to the pontoon rim.

**Service**
- Suitable for all products with correct material selection.

**API 650 Compliant**
- Yes

**Codres Compliant**
- Yes

**Weight**
- 21 Kg’s/m. (Typical based on 200mm rim space)

**Advantages**
- A relatively low cost seal. Can be supplied without vapour barrier membranes as above or with vapour barrier membranes (PT-D3-V version).
- Seal wiper is supplied in 25m lengths to minimise the number of required joints.
- May be attached to either a vertical or horizontal fixing point.
- When used without vapour barrier membranes or skirt this seal becomes more rigid and less able to compensate for tank shell distortion.
- The wiper seals have a small area of contact with the tank shell.

**Disadvantages**
- When used without vapour barrier membranes or skirt this seal becomes more rigid and less able to compensate for tank shell distortion.

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Premier Tank Services Ltd, Premier House, 40 Rochdale Road, Heywood, Lancashire, United Kingdom. OL10 1LE. Tel: +44 (0)1706 629376, Fax: +44 (0)1706 691244. Web: www.premierseals.co.uk, email: sales@premierseals.co.uk
Key Component Materials:

<table>
<thead>
<tr>
<th></th>
<th>Flexible Hose Drain System</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Flexible Hose</td>
</tr>
<tr>
<td></td>
<td>Nitrile rubber outer cover suitable for up to 70% aromatic service or Viton rubber outer cover suitable for 100% aromatic service</td>
</tr>
<tr>
<td>2</td>
<td>Link Chain</td>
</tr>
<tr>
<td></td>
<td>Plated</td>
</tr>
<tr>
<td>3</td>
<td>Quicklink Couplings</td>
</tr>
<tr>
<td></td>
<td>Plated</td>
</tr>
<tr>
<td>4</td>
<td>Hose Clamps</td>
</tr>
<tr>
<td></td>
<td>Carbon Steel (coated)</td>
</tr>
<tr>
<td>5</td>
<td>Hose Protector Strap</td>
</tr>
<tr>
<td></td>
<td>Nitrile rubber</td>
</tr>
</tbody>
</table>

Seal Type: Flexible Hose Drain System

Description: Flexible Hose c/w Stainless Steel Helicoil, Reinforcing Plies, Lead Ballast & 150# RF Flanges (See separate data sheet for full details).

Used On: External Floating Roof Tanks.

Service: Suitable for all products with correct material selection.

API 650 Compliant: Yes

Codres Compliant: Yes

Advantages:
- Less expensive than Articulated systems.
- Quick to install.
- No effect on roof movement.
- Available in 3", 4", 6" & 8" systems.

Disadvantages:
- Can become trapped by roof legs if hose protectors are not installed.

Hose Roof Leg Protectors (not supplied)
ARTICULATED DRAIN SYSTEM

Key Component Materials:

1. Swivel Joints: Carbon Steel or Stainless Steel body (see separate sheet for full details)
2. SCH 40 Pipework: Carbon Steel
3. SCH 40 S.R. Elbows: Carbon Steel
4. 10 Dia Link Chain: Stainless Steel
5. 150# Weld Neck Flanges: Carbon Steel
6. Base Leg Supports: Carbon Steel

Seal Type: Articulated Drain System
Description: Steel Pipe System with Rotary Swivel Joints.
Used On: External Floating Roof Tanks.
Service: Suitable for all products with correct material selection.
API 650 Compliant: Yes
Codres Compliant: Yes
Advantages:
- Robust construction capable of withstanding all imposed forces.
- No maintenance requirements.
- No problems of contacting with roof legs.
- Available in 3”, 4”, 6” & 8” systems.
Disadvantages:
- Higher initial cost and longer installation time than Drain Hose.
Key Component Materials:

1. Flexible Hose Joints
   - Galvanised Steel casings with PTFE/St.Steel spiral wound Bending Hose

2. SCH 40 Pipework
   - Carbon Steel

3. SCH 40 S.R. Elbows
   - Carbon Steel

4. 10 Dia Link Chain
   - Stainless Steel or Plated

5. 150# Weld Neck Flanges
   - Carbon Steel

6. Base Leg Supports
   - Carbon Steel

Seal Type: Articulated Drain System

Description: Steel Pipe System with Flexible Hose Joints.

Used On: External Floating Roof Tanks.

Service: Suitable for all products with correct material selection.

API 650 Compliant: Yes

Codres Compliant: Yes

Advantages:
- Robust construction capable of withstanding all imposed forces.
- No maintenance requirements.
- No problems of contacting with roof legs.
- Available in 3”, 4”, 6” & 8” systems.
- Pipes are in a straight line with no offsets to cause uneven loading.

Disadvantages:
- Higher initial cost and longer installation time than Drain Hose.
Details:

The design & construction of pontoon roof legs allow vapours to escape from the annular space between the leg and the leg sleeve & also through the leg location pin holes. Any vapour emission loss represents not only a financial loss but also a potential safety hazard.

PTS Leg Socks effectively minimises vapour losses from these area’s.

Installation of the socks can be carried out with the tank in service.

Features:

- Choice of PTFE or Polyurethane fabrics which are fully UV & stored product resistant.
- B.S. Stainless Steel Jubilee clip provided.
- No maintenance required.
- Easily installed with the tank in service.
INTEGRAL FOAM DAM

Key Component Materials :-

1. Foam Dam Plates 3mm/1.6mm Galvanised Steel or 1.5mm Stainless Steel
2. Bolts/Nuts Zinc Plated or Stainless Steel
3. Channel Clamp Bars 3mm Galvanised Steel or 2.5mm Stainless Steel

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Details:
Vapour emissions from the annular space between the guide pole and floating roof of an open top floating roof tank represent not only a financial loss but also a potential safety hazard. The installation of a Guide Pole Sleeve effectively minimises vapour loss from this area.

The unit comprises a stainless steel outer carcass to which is bonded a chemically resistant PTFE liner that enables the unit to be used on storage tanks containing even the most aggressive products.

Installation of the unit can be carried out with the tank in service.

Features:
- All stainless steel metal parts
- PTFE Liner bonded to outer carcass
- Chemically resistant to all Petrochemical products
- No maintenance required
- Easily installed with the tank in service
Premier Tank Services is able to offer either complete seals or just replacement parts for virtually any of the multitude of seal designs that have been introduced over the years.