



TS - 5 Liquid Filled Seal TS - 6 Liquid Filled Tube Seal

The TS - 5 type seal from TankServ is used widely on floating roof tanks storing crude oil and refined products. Typical service lifetimes of between 10 and 20 years have been achieved; however although the seal has wide applications, special materials may be required for particular storage conditions. Applications of up to 100% aromatic content are possible.

The TS - 6 is a liquid filled seal from TankServ and should be compared with the TS - 5. The full range of floating roof tank sizes can be serviced and service in crude oil and diverse refined products is commonplace. Aromatics contents of up to 75% can be handled. The tube diameter can also be varied to meet a range of rim gap dimensions.

TS5 - Liquid Description

A two-part envelope made from a nylon fabric coated with special polymers is made endless and vulcanised together at the lower end to form an envelope, or bag, which is filled with a neutral liquid, normally kerosene.

The liquid filling, since it is held just above the level of the stored product, exerts a head, or pressure, on the containing envelope, pressing one side against the roof rim plate (the rimband) while the other side of the envelope (the scuffband) is pushed against the tank shell, creating a seal. Because the bottom of the liquid filled bag is in contact with the stored liquid, sealing efficiency is high.

The scuffband is ribbed in a longitudinal direction to improve its wearing properties while the labyrinthine vapour path enhances its sealing characteristics.

Normally the rim space is 200mm + 100mm. A self-adjusting metal support system completes the structure to allow for roof movements, and the top of the envelope is clamped securely to the mounting ring.

Materials of Construction

- **scuffband:**
PVC/nitrile nominal thickness 4.5mm
- **rimband:**
PVC/nitrile nominal thickness 1.6mm
- **metal parts:**
mild steel, natural finish

Replacement Parts

TankServ can also supply a wide range of replacement parts and it should be noted that the lifetime of this seal may be extended by the fitting of an inner tube.

Weathershield/Secondary Seal

Because of the structure of this seal type it is almost essential to fit a weathershield to shed rain water which would otherwise collect and enter the stored product.

Modern practice, however, is to fit a secondary seal of the compression plate type which provides even better weather protection than the weathershield and also greatly reduces vapour loss. The Servaseal range of secondary seals combined with the TS - 5 provide a formidable barrier to the passage of vapourised product.

For more details on this and other products visit:

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TS6 - Liquid Description

The TS - 6 seal is similar to the TS - 5 seal but has an additional component, an inner tube, and also differences in the metal support arrangements.

Against the tank shell there is a scuffband of nylon fabric coated with an abrasion resistant polymer coating which presents a ribbed surface to the shell. The scuffband is attached top and bottom by bolting in such a fashion that the lower portion of the scuffband is in contact with the stored liquid, ie. product mounted.

Between the scuffband and the roof rim a tube of flexible polymer is inserted and filled with either kerosene or, if the local climate is clement, a water/glycol mixture.

The filled tube exerts a hydraulic pressure outwards, holding the scuffband against the tank shell and so effecting a seal.

The scuffband and tube for this seal are supplied open ended which simplifies construction (no guidepoles or rolling ladders etc. to negotiate).

Materials of Construction

- **scuffband:**
PVC/nitrile nominal thickness 4.5mm
- **tube:**
TS - 131 nominal thickness 1.6mm

Replacement Parts

TankServ can also supply replacement parts and it may be possible to fit these from the roof topside.

Weathershield/Secondary Seal

A Weathershield is almost essential with this type of seal; however even greater benefits can be obtained by fitting a secondary seal from the Servaseal range.

Land & Marine

TANKSERV

Land and Marine Project Engineering Ltd

Dock Road North, Bromborough,
Wirral CH62 4LN United Kingdom

T. +44 (0)151 641 5600

F. +44 (0)151 644 9990

E. company@landandmarine.com

W. www.landandmarine.com

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