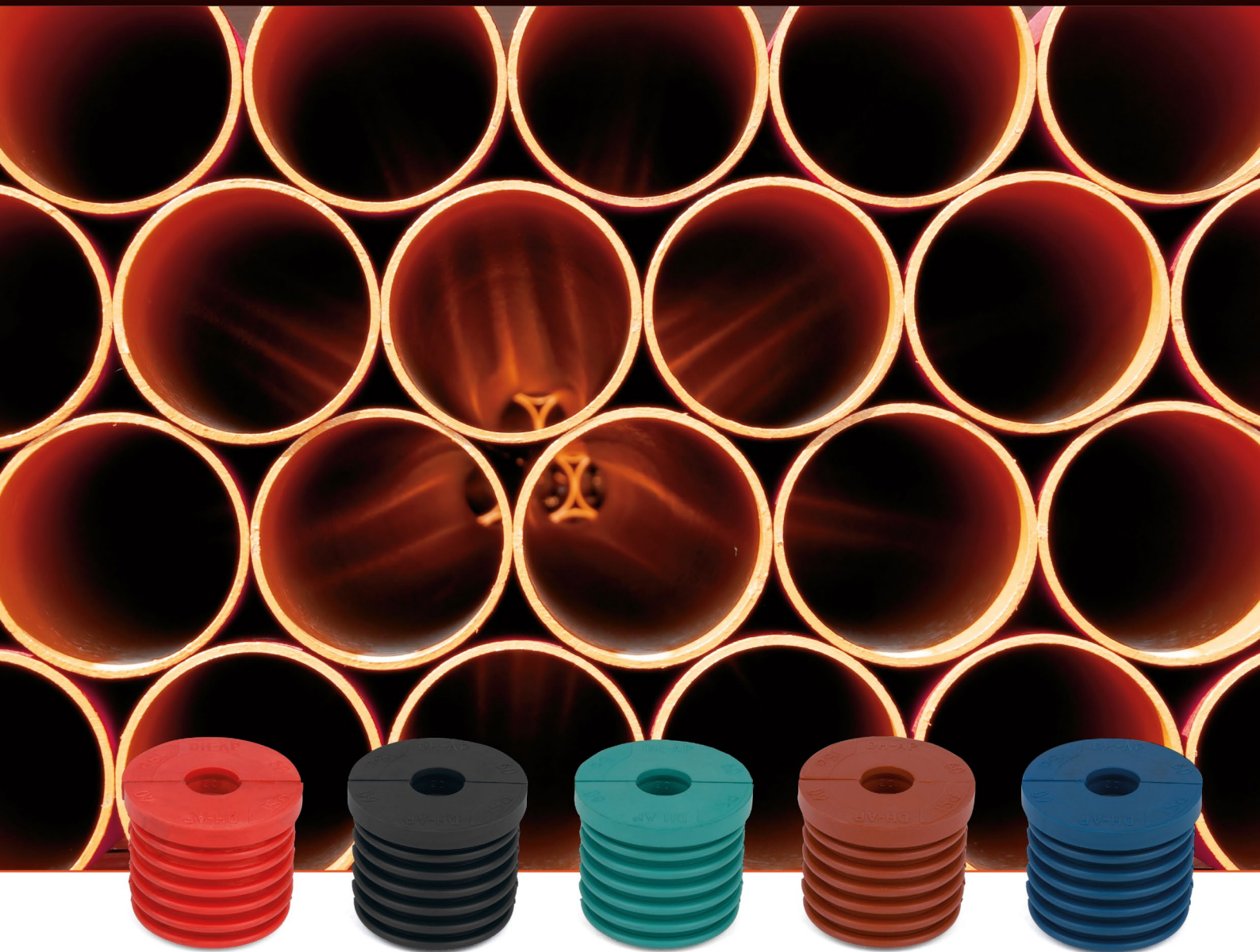


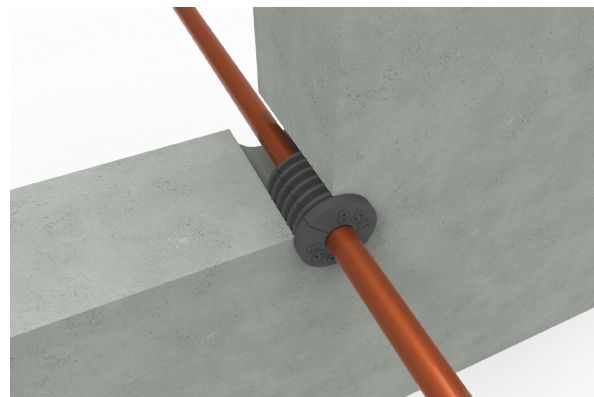
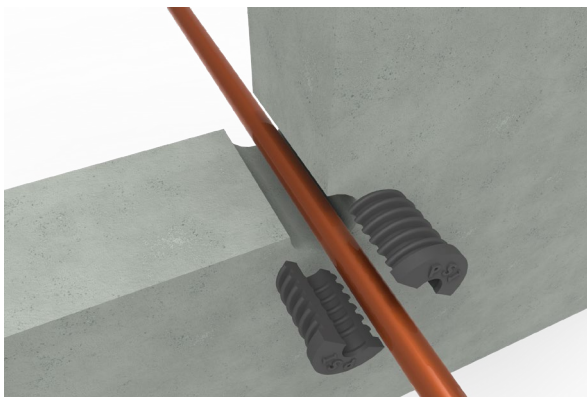
# PSI SEALING PLUGS FOR PIPES AND TUBES

THE PSI SEALING SYSTEM IS THE IDEAL SEALING SYSTEM FOR A SINGULAR TRANSIT OF PIPES AND TUBES  
AVAILABLE IN SIZES FOR PVC PIPES, CASING TUBES (DIN AND ASTM) AND FOR STANDARD BORE HOLES



## PSI SEALING

The sealing system from PSI Sealing is the ideal sealing system for the single penetration of pipes. The seal consists of two equal, semicircular rubber parts and has a number of areas of application: in PVC pipes, steel casing pipes in both DIN and ASTM dimensions and an application in standard boreholes. By using a PSI Sealing plug in FS version, a gas and watertight as well as fire resistant seal is created for your pipe or tube.



### Properties of the PSI Sealing plugs:

- 60 minutes fire resistant (tested according to IMO regulations)
- Successfully tested up to 3 bar pressure resistance (Lloyd's Register)
- Suitable for pipeline PVC tube, casing tubes (DIN and ASTM format) and boreholes
- Resistant to gas, water, pressure
- Large range of sizes available
- No additional parts or specific tools are required for assembly

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# SIZES

PVC Ø (outside diameter in mm)	PVC Ø (inside diameter in mm)	Inside reach PSI plug Ø (inside diameter in mm)
32	25,6	0 + 5 to 11
40	33,6	0 + 5 to 20
50	43,6	0 + 5 to 28
75	68,6	0 + 20 to 50
110	103,6	0 + 30 to 75
125	118,6	0 + 60 to 95
160	152	0 + 86 to 125
200	190,2	0 + 124 to 154
250	237,6	150 to 184

DIN Ø (outside diameter in mm)	DIN Ø (inside diameter in mm)	Inside reach PSI plug Ø (inside diameter in mm)
42,4	37,2	0 + 5 to 19
60,3	54,5	0 + 15 to 35
88,9	82,5	0 + 30 to 62
114,3	107,1	0 + 50 to 84
139,7	131,7	0 + 70 to 102
168,3	159,3	0 + 80 to 126
219,1	207,3	0 + 122 to 164
273	260,4	0 + 150 to 202

### Tolerance:

tolerance for both inner and outer size:

up to 40mm 0-1mm

40mm+ size 0-2mm

Example:

A plug 168,3-82 is suitable for sealing an outer diameter tube of 82,0-84,0mm

DH-AP Ø (outside diameter in mm)	DH-AP Ø (inside diameter in mm)	Inside reach PSI plug Ø (inside diameter in mm)
25	25,6	0 + 15 t/m 19
35	35	0 + 5 t/m 16
40	40	0 + 5 t/m 23
50	50	0 + 5 t/m 33
60	60	0 + 20 t/m 42
70	70	0 + 22 t/m 52
80	80	0 + 28 t/m 58
90	90	0 + 30 t/m 64
100	100	0 + 30 t/m 66
105	105	32-33   40-42
110	110	0 + 19-20   40-42   62-64   74-76
125	125	0 + 40 t/m 92
150	150	0 + 60 t/m 126
160	160	90-92   110-112   124-126
200	200	0 + 124 t/m 162
250	250	150 t/m 202

ASTM Ø (outside diameter in mm)	ASTM Ø (inside diameter in mm)	Inside reach PSI plug Ø (inside diameter in mm)
60,3	52,5	0 + 15 to 33
88,9	77,9	0 + 20 to 52
114,3	102,3	0 + 30 to 72
141,3	128,1	0 + 50 to 96
168,3	154,1	0 + 60 to 122
219,1	202,7	0 + 124 to 162
273	254,4	0 + 150 to 202

## PREPARATION

### 1. Determine the type of entry

Determine by which material (aperture) a single pipe or pipe is passed. In this, the seal system of PSI Sealing has four possibilities:

- PVC tube
- Standard borehole / aluminum pipe (DH-AP)
- DIN tube
- ASTM tube

### 2. Determine the inside diameter of this opening

The inside diameter of the opening must be accurately determined, this is the outer diameter of the PSI seal.

An example of this is thick-walled PVC Ø 110 (with a wall thickness of 3.2). The inner diameter of this is 103.6, this is the outer dimension of the corresponding seal.

### 3. Determine the outside diameter of the pipe or pipe to be passed

The outer diameter of the pipe or pipe to be passed is, in short, the inner diameter of the seal. Round this down to full millimeters. So 20.6 => 20mm. This ensures a good seal. PSI Sealing is a size per pass through a size range. This range indicates what is the smallest possible and greatest possible measure. For example, in the 103.6 series, the smallest throughput is 30mm and maximum a pipe or tube can be passed from 75mm.

Note: The range of diameters is for indicative purposes only. The standard available sizes available at this time can also be found on our website, [www.psissealing.com](http://www.psissealing.com). Different sizes are on request.

### 4. Determine the type of rubber you want

The seals of PSI Sealing are available in five different rubbers. These know the following applications: waterproof, gas tight, fire retardant, application near oil, application near chemicals and application in extreme temperatures. For the precise possibilities, see the table on page 7.

## 5. The setup

The designation of the PSI seal thus consists of three parts:

1. Inner size opening = inner size seal
2. Excessive amount of pipeline or pipe
3. Rubber quality

For illustration: You must pass a Ø50 tube through a PVC tube (thick-walled Ø 110). The seal must be gas and waterproof. In that case, you will need the following PSI seal: 103.6 / 50 EPDM.

## Plug lengths

Total length of the sealing plugs including flange:

Outside diameter sealing: $\leq 60$ :	L=58mm
Outside diameter sealing: $> 60 \leq 160$ :	L=68mm
Outside diameter sealing: $> 160$ :	L=88mm

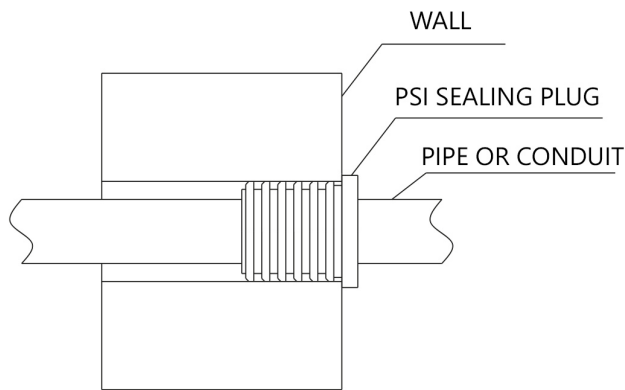
Blind sealing plugs:

Outside diameter sealing: $\leq 60$ :	L=40mm
Outside diameter sealing: $> 60 \leq 160$ :	L=50mm
Outside diameter sealing: $> 160$ :	L=60mm

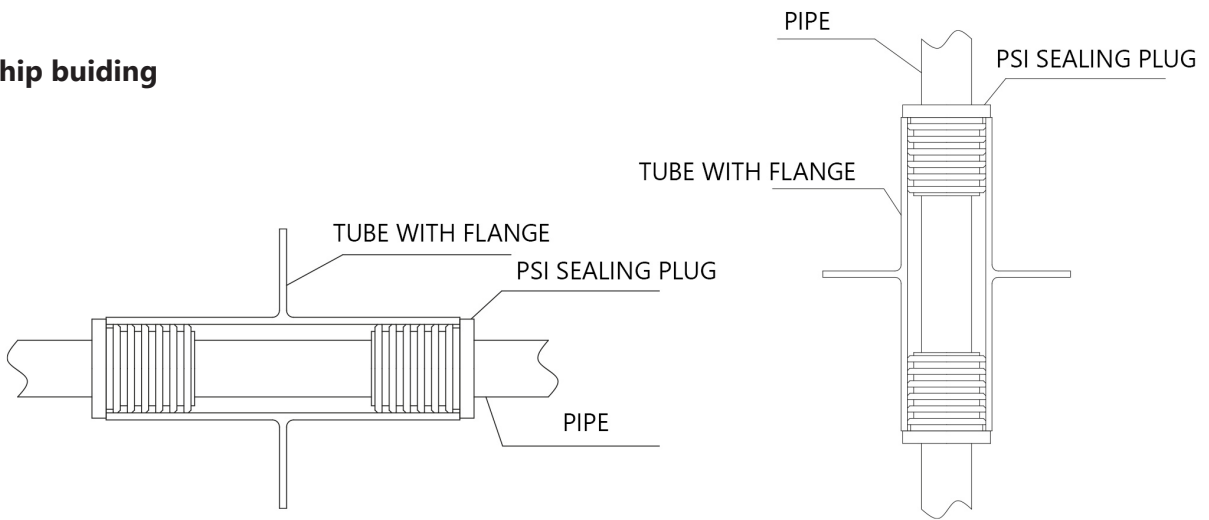
Thickness of the flange is 8mm.

# INSTALLATION

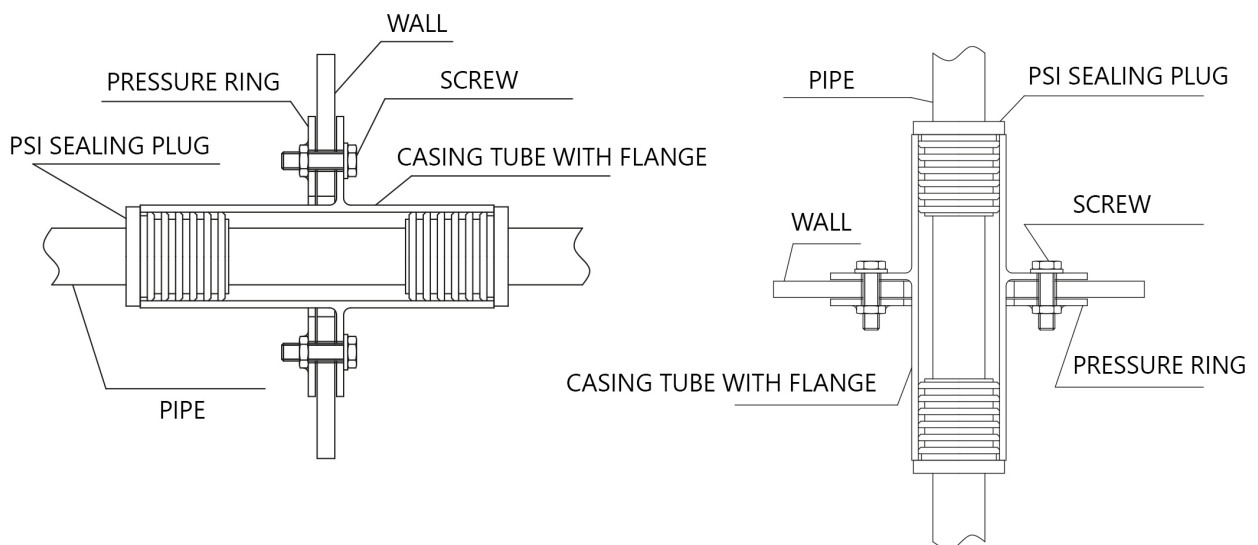
## Wall



## Schip building



## Yacht building



# TYPES

MATERIAL	COLOR	TEMPERATURE RANGE	SPECIFIC CHARACTERISTICS
EPDM	Black	-25°C/+110°C	Standard rubber for a gas- en watertight seal (for example heating pipes and waterpipes)
Fire Safe (FS)	Red	-30°C/+120°C	Fire retardant rubber (including fire-retardant, gas and watertight sealing pipes)
Nitrile (NBR)	Blue	-25°C/+110°C	Water- and gastight - resistant against the influence of oils and greases (for example hydraulic installations)
Silicone	Brown	-60°C/+200°C	Water- and gastight - resistant against big temperature fluctuations (cooling- and steam pipes)
Viton (FPM)	Green	-25°C/+200°C	Water- and gastight - resistant against the influence of chemicals (for example laboratories)



## PRODUCT WARRANTY

The life of the products is guaranteed for the duration of 25 years. This product warranty can only be given provided that it is chosen and used for the correct application, cool and dark, and is not a guarantee of proper assembly, dynamic loading, corrosion and / or chemical effects, etc.

Application	Tested by	Value
Pressure	Lloyd's	3 Bar
Fire (demand shipping industry)	Lloyd's / MCA, MED approval	A60

## INSTALLATION

### 1. Check the opening

The inner side of the pipe, tube or hole needs to be cleaned carefully.

### 2. Lubricate

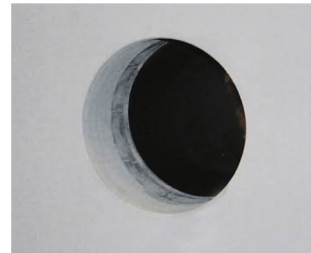
It is recommended to lubricate both the inner side of the opening, and the outer and inner side of the PSI plug, with acid-free Vaseline. This simplifies the installation and extends the lifespan of the sealing. The acid-free Vaseline is available at TTT, in containers of 150 ml.

### 3. Mount

Make sure that the pipe or tube is placed exactly in the middle of the transit. Put the two equal parts of the PSI sealing, with the flange on the pressure side, around the pipe or tube you want to seal. Push the plug into the opening with both hands. The two parts needs to be exactly on top of each other, to create a good sealing. The sealing can be inserted until the flange reaches the pressure side. Do not push further!

When the installation gets harder, for example with bigger sizes, de sealing can be tapped in carefully with a flat piece of wood or a hammer.

If you want to seal in a location where the pressure can come from both sides, a PSI plug is placed at both sides of the wall, to seal both rooms. This method is also necessary for a gastight sealing.





## FIXATION COLLAR FOR PVC TUBES

TTT offers handy rubber fixation collars for easy and accurate fixing of PVC and plastic tubes. These fixation collars are made of high-quality rubber specially made for this specific application. The collar can be glued directly onto the PVC collapsing pipe, creating a watertight seal.



### Advantages compared to PVC collars:

- Rubber adheres better to concrete
- Not fragile at lower temperatures



### Assembly

For a proper assembly of the fixation collar, the adhesion to the pipe is particularly important. For optimum adhesion of the fixation collar, the tube should be roughly lightly roughened, after which the tube should be degreased with acetone. For the gluing of the fixation collar, both on the concrete wall and on the pipe, we recommend CA glue, for example the types 1500V or 1505. With heavy loads, it is advisable to sand the pipe.

The fixation collar is available in 9 different sizes:

Article number	PVC outer diameter	Set
DN040	40 mm	25 stuks
DN050	50 mm	25 stuks
DN063	63 mm	25 stuks
DN075	75 mm	25 stuks
DN110	110 mm	15 stuks
DN125	125 mm	15 stuks
DN160	160 mm	10 stuks
DN200	200 mm	10 stuks
DN250	250 mm	10 stuks

## Theunissen Technical Trading also supplies:



### LIGHTING ON BOARD

Technical | Navigation | EX | LED assortment | Floodlights



### PIPE- AND CABLE TRANSITS

Water- and gastight | EMC | ATEX



### COMMUNICATION ON BOARD

Telephone | Intercom | PA | GA | EX | Wireless



### ELTEK POWER CONVERSION

UPS | Rectifiers | Inverters | Battery banks



### FIRE DETECTION

Complete systems | Conventional | Adressable



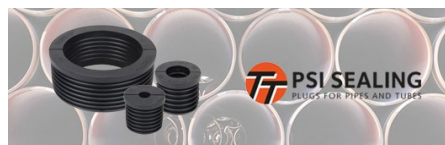
### REVERSE OSMOSIS WATERMAKERS

650 - 1.200.000L a day



### SEARCHLIGHTS

Halogen | Xenon | LED



### SINGLE PIPE- AND CABLE TRAN-SITS

ASTM | DIN | DH-AP | PVC



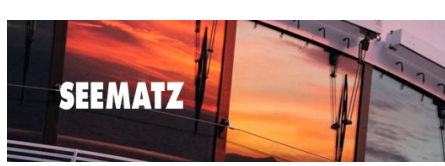
### LOUDSPEAKERS

Horn | Cabinet | Music | Ceiling | Projector | Voice Alarm | Clean Room | EN54-24 | EX



### EMERGENCY TELEGRAPHS

two wire based



### WINDOW WIPERS

straightline wipers, custom sizes



### SIGNAL COLUMNS

Configurable as desired



### MARINE HEATERS

Elektrical | IP44 | 250-2000W