

■ **FRANK Puddle Flange**



The problem

Problems keep on occurring when connecting pipes during construction work. Pipes laid in the ground must be introduced into concrete walls or shafts. In many cases, the presence of groundwater must be taken into account in these procedures. The installation of pipes in swimming pools, shafts, etc. is also critical. Standing water penetrates on the outer side of the pipes right into the building, requiring costly elimination of the leaks.



*PP pipe 63 mm Ø with
63 mm Ø FRANK puddle flange*

The solution

With FRANK puddle flanges of EPDM, pipes can be installed, pressure and watertight, through concrete walls, floor slabs and shafts. FRANK puddle flanges provide a perfect sealing with all current pipe materials provided that the pipe's outer surface in the area of the collar is clean, smooth and pore-free. If necessary, the pipe's surface should be rubbed smooth.

Characteristics

The used EPDM material is chemically resistant to a wide variety of acids and lyes. It also provides outstanding weather and ozone resistance. Against oil and grease it provides only moderate resistance. EPDM is not resistant to petrol. In the latter case, FRANK puddle flanges made from NBR can be used.

Density	1.030 kg /m ³
Shore hardness	40° Sh ± 5
Tensile strength	8 N/mm ²
Elongation at breaking point	750 %
Tear strength	3,5 N/mm ²
Temperature resistance	-50....+120°C
Compression set (24 h, 70°C)	25 %

Area of application

The system is designed for the standard diameters of plastic pipes. Because of the great flexibility it can also be used for diameters of different pipe materials.

Our technical department is available to provide detailed instructions and information for specific applications.



*Stoneware pipe DN 250 with
d 250 mm FRANK puddle flange*



*PVC pipe DN 100 with
110 mm Ø FRANK
puddle flange*

Advantages

- Economical solution
- Easy installation with steel or stainless steel clamping bands
- Suitable for various pipe materials
- Waterproof to 60 m of water column for diameters from 32 to 315 mm
- From diameter 355 mm, waterproof to 10 m of water column
- Can be installed in ceilings, floors and walls
- Good chemical resistance to acids and lyes
- Many years of experience with over 700,000 applications
- Also available for oil and petrol-resistant NBR

Installation

The puddle flanges are pulled onto the pipe by hand and fastened by means of the appropriate clamping system in accordance with the installation instructions. A screwdriver can be used to install the clamping system on pipes up to 315 mm diameter. From d 355 mm a clamping tool must be used. FRANK puddle flanges are not fixing points for pipe but we can also supply high-tensile wall ducts of PE and PP.

Quality assurance

The production, logistics and development of the puddle flanges is certified according to DIN EN ISO 9001:2008 ff. Consistently high quality is ensured through the use of high quality raw materials, the latest production techniques and comprehensive, factory-wide monitoring.



Model 1

32 to Ø 315 mm sealing up to 60 m of water column

■ Puddle flange installation kit

contains 1 puddle flange and 2 stainless steel clamping bands
(dimensioned appropriately)

■ Puddle flange and clamping band as individual components

puddle flange

Art. No. 90 954 ...

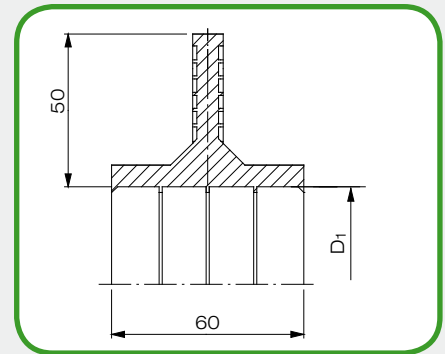
30 m roll of galvanized steel clamping band

Art. No. 95 956 0025 00

galvanized steel fastener for clamping band

Art. No. 95 958 0000 00

up to 200 mm dia. 2, above 225 mm dia. 4 fasteners per collar



Pipe dia. [mm]	Diameter range Installation kit [mm]	Puddle flange [mm]	D ₁ [mm]	L ¹⁾ [m]	Weight [kg/piece]
32	32-36	32-36	29	0,45	0,16
40	40-44	40-44	38	0,5	0,2
50	50-55	50-55	48	0,6	0,24
63	63-70	63-70	60	0,7	0,26
75	75-82	75-82	71	0,8	0,30
90	90-97	90-97	84	0,9	0,34
110	110-121	110-121	105	1,0	0,40
125	125-140	125-140	120	1,1	0,46
140	125-140	125-140	120	1,2	0,46
160	160-170	160-179	154	1,3	0,56
180	180-190	180-199	173	1,5	0,60
200	200-210	200-224	195	1,6	0,70
225	225-240	225-249	215	2,1	0,78
250	250-260	250-279	245	2,3	0,84
280	280-290	280-314	275	2,5	0,86
315	315-330	315-354	310	2,8	1,06

Art.-No. Installation kit 90 954...	Art.-No. Puddle flange 90 954...
0032 01	0032 00
0040 01	0040 00
0050 01	0050 00
0063 01	0063 00
0075 01	0075 00
0090 01	0090 00
0110 01	0110 00
0125 01	0125 00
0125 01	0125 00
0160 01	0160 00
0180 01	0180 00
0200 01	0200 00
0225 01	0225 00
0250 01	0250 00
0280 01	0280 00
0315 01	0315 00

¹⁾ L = required length of
clamping band per puddle
flange

Model 2

from Ø 355 mm sealing up to 10 m of water column

■ Puddle flange and clamping band as individual components

puddle flange

Art.-No. 90 954 ...

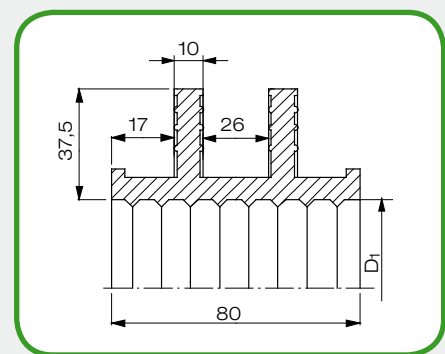
30 m roll of stainless steel clamping band

Art.-No. 97 955 0031 00

stainless steel fastener for clamping band

Art.-No. 95 957 0000 00

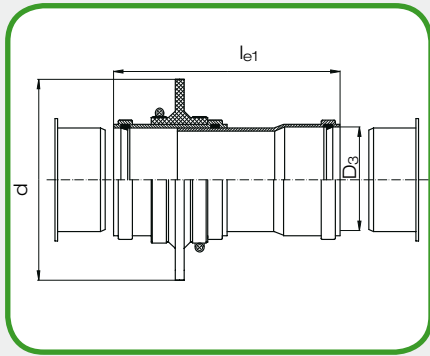
3 fasteners per puddle flange



Pipe dia. [mm]	Diameter range [mm]	D ₁ [mm]	L ¹⁾ [m]	Weight [kg/piece]
355	355-399	310	7,8	1,32
400	400-449	353	8,7	1,66
450	450-499	400	9,9	1,80
500	500-559	448	11,1	2,15
560	560-629	505	12,3	2,30
630	630-709	571	13,8	2,55
710	710-799	648	16,2	2,64
800	800-899	733	17,1	3,22
900	900-999	828	18,0	3,60
1000	1000-1150	923	19,8	3,88
1200	1200-1350	1113	23,7	5,64
1400	1400-1550	1303	28,0	6,44

Art.-No. 90 954...
0355 00
0400 00
0450 00
0500 00
0560 00
0630 00
0710 00
0800 00
0900 00
1000 00
1200 00
1400 00

¹⁾ L = required length of
clamping band per puddle
flange



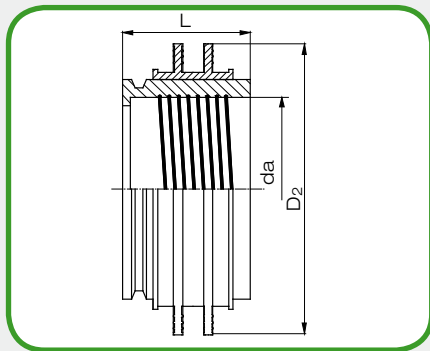
FRANK wall mounting kit

With the FRANK wall mounting kit you can pass PVC- and HT-pipe through concrete walls and slabs. The kit will be delivered prefabricated for the installation which has to be flush with the shuttering and is for concrete walls of 30 cm respectively 33 cm. The pipe inserted in the wall allows you to shorten the wall mounting kit up to a wall thickness of 21 cm respectively 26 cm. As well it is possible to extend the wall mounting kit by a standard KG-/HT-pipe.

d ¹⁾ [mm]	D ₃ [mm]	l _{e1} [mm]
110	216	21 - 30 cm
160	268	26 - 33 cm

Art.-No.
90 970 0110 00
90 970 0160 00

Further dimensions on request
Extra length on request



FRANK manhole connection socket (SAM)

machined, tightness up to 60 m water column, depending on nominal diameter. For a tight connection between PE pipes and concrete manholes. With embedded resistance wire for welding the manhole connection socket SAM with the PE pipes.

d _a [mm]	DN [mm]	L [mm]	d ₂ [mm]
160	150	135	297
225	200	135	372
280	250	135	445
355	300	135	515
450	400	135	573
560	500	135	699

Art.-No.
25 178 0160 17
25 178 0225 17
25 178 0280 17
25 178 0355 17
25 178 0450 17
25 178 0560 17

Further dimensions on request

Tender text

FRANK puddle flange

Preliminary remarks

FRANK EPDM puddle flanges are used to seal pipes passed through concrete walls and floor slabs. The circular puddle flange with profiled walls are pretensioned, fitted onto the pipe and fastened there with a steel band clamping system.

Clamping band of stainless steel.

When installing, you must ensure

- that the outer surface of the pipe is smooth, pore-free, clean and dry (if necessary, smooth away any grooves and seal any pores)
- cover of concrete minimum 5 cm all over the puddle flange
- use of waterproof concrete

The collar's sealing capability has been evidenced by means of a test report from an independent testing institution:

- for diameter 32 to 315 mm, with a differential pressure of 6 bar.
- for diameter 355 to 1400 mm, with a differential pressure of 1 bar.

The manufacturer's laying guidelines are binding.

Puddle flange

..... pc. FRANK EPDM puddle flanges for external pipe diameter

d mm

mount them on the pipe to be concreted in, fasten them with clamping band and position them in the mould.

unit price

Wall mounting kit

..... pc. FRANK wall mounting kit ND 100 for passing plastic pipes DN 100 through walls as push-fit construction with lip seal

d x mm

deliver, position the shuttering and put into the corresponding pipeline.

unit price

Manhole connection socket SAM

..... pc. FRANK manhole connection socket SAM for PE pipe d x mm with embedded resistance wire for tight connection of PE pipes into concrete manholes

deliver, position into shuttering and put into the corresponding pipeline.

unit price

Supplier:

FRANK GmbH
Starkenburgerstraße 1
64546 Mörfelden-Walldorf / Germany
Phone: +49 6105 4085-0
Fax: +49 6105 4085-249
Email: info@frank-gmbh.de



Test certificates

Staatliche Materialprüfungsanstalt Darmstadt
 Leitung: Prof. Dr.-Ing. C. Berger
 Grafenstraße 2, D - 64283 Darmstadt
 Abteilung Kunststoffe

MPA Darmstadt

Prüfbericht K 04 0839

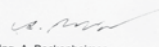
Auftraggeber: Frank GmbH
 Starckenburgstraße 1
 D-64546 Mörfelden


Auftrag vom: 2004-06-14 Bestell-Nr. oder Zeichen: 5-2004-200
 Auftrag über: Prüfung von Mauerkragen gegen das Eindringen von Grundwasser




Prüfzut: Komplett montierte Elastomermanschetten d110 der Firma Frank bezeichnet als „Mauerkragen d110“ auf Rohrschnitten gemäß DIN 8077/8078-2-40 PP/H 100 110 x 10 SDR 11 mit Endkappen aus PP/R, Anzahl 3 Stück

Prüfzutentnahme: Das Prüfzut wurde vom Auftraggeber angeliefert
 Prüfzuteingang: 2004-06-18

Darmstadt, den 2004-09-02 Seiten: 5
 Zeichen: K/Bo
 Verteiler: 1 x Auftraggeber, 1 x MPA-Da.

Die Leitung
 i.A. 
 Dipl.-Ing. A. Bockenheimer

Der Sachbearbeiter

 Dipl.-Ing. M. Bohl

Die in diesem Prüfbericht mitgeteilten Prüfergebnisse und Ausführungen beziehen sich ausschließlich auf das angegebene Prüfzut. Die Weitergabe, Vervielfältigung, Übersetzung oder Verwendung dieses Prüfberichtes für Werbezwecke - gleichgültig ob ungekürzt, gekürzt oder auszugsweise - bedarf der schriftlichen Genehmigung durch die Staatliche Materialprüfungsanstalt Darmstadt.

Pressure testing of an installed FRANK puddle flange, 110 mm diameter, by an independent materials testing laboratory

Test pressure: 6 bars

Staatliche Materialprüfungsanstalt Darmstadt
 Leitung: Prof. Dr.-Ing. C. Berger
 Grafenstraße 2, D - 64283 Darmstadt

MPA Darmstadt

Abteilung Kunststoffe
Prüfbericht K 96 0861

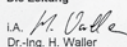
Auftraggeber: Frank GmbH, D-64528 Mörfelden-Walldorf


Auftrag vom: 14.05.1996 Bestell-Nr. oder Zeichen: US/ad
 Auftrag über: Prüfung von „Mauerkragen“


Prüfzut: 3 Elastomermanschetten DN 500, bezeichnet als „Mauerkragen“ auf Rohrschnitten DIN 8074 500x15,5-PE-HD montiert.

Prüfzutentnahme: Vom Auftraggeber vorgelegt (nicht amtlich entnommen)
 Prüfzuteingang: 26.04.1996

Darmstadt, den 11.10.1996 Seiten: 3
 Zeichen: K/Lg/Hr Anlagen: 2
 Verteiler: Firma, MPA-DA

Die Leitung
 i.A. 
 Dr.-Ing. H. Waller

Der Sachbearbeiter

 Dipl.-Ing. H. Waller


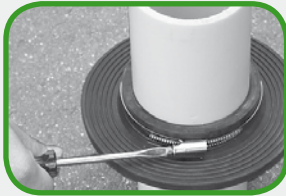
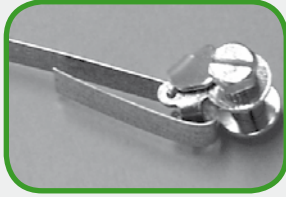

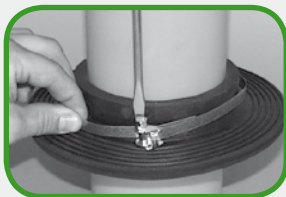



Die in diesem Prüfbericht mitgeteilten Prüfergebnisse und Ausführungen beziehen sich ausschließlich auf das angegebene Prüfzut. Die Weitergabe, Vervielfältigung, Übersetzung oder Verwendung dieses Prüfberichtes für Werbezwecke - gleichgültig ob ungekürzt, gekürzt oder auszugsweise - bedarf der schriftlichen Genehmigung durch die Staatliche Materialprüfungsanstalt Darmstadt.

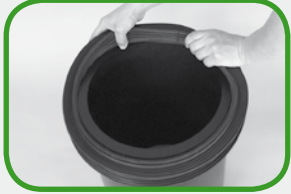
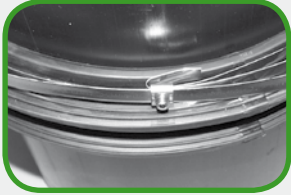
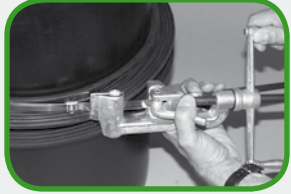


Pressure testing of an installed FRANK puddle flange, 500 mm diameter, by an independent materials testing laboratory

Test pressure: 1 bar

Installation instructions for FRANK puddle flanges diameter 32 to 315 mm

<p>1. Preparing the pipe</p> <p>The outer surface of the pipe to be concreted in must be cleaned with cloth, steel wool or similar material. Any visible grooves on the plastic pipes must be removed with a scraper on the puddle flanges support. In the case of all pipe materials, the surface of the pipe must be clean, smooth and pore-free (concrete pipes must be smoothed with liquid cement).</p>	
<p>2. Installing the puddle flange</p> <p>Neutral soap or a similar product can be used as an aid when sliding the puddle flange onto the pipe. The puddle flange must be positioned in the middle of the wall to be sealed. The concrete coating must cover every part of the puddle flange to at least 5 cm.</p>	
<p>3. Installing the clamping band - with the puddle flange installation kit</p> <p>Fit a clamping band on both sides of the collar and tighten it using a screwdriver or a hexagonal Allen key.</p>	
<p>- with individual components</p> <p>Clamping bands are required per puddle flange:</p> <ul style="list-style-type: none"> ■ up to 200 mm diameter with 1 fastener on the circumference ■ above 225 mm diameter with 2 fasteners on the circumference <p>a) Determine the length of the clamping band (pipe circumference + 115 mm and cut to length.</p>	
<p>b) Fold over approx. 5 cm of the band and hang it in the fastener's clip.</p>	
<p>c) Fit the clamping band around the collar and insert the end into the compression bolt.</p>	
<p>d) Turn the compression bolt in a clockwise direction using a screwdriver or hexagonal Allen key and tighten the clamp gently until the band is fixed tightly.</p>	
<p>4. Ready-installed FRANK puddle flange</p>	

Installation instructions for FRANK puddle flanges diameter 355 to 1400 mm

<p>1. Preparing the pipe</p> <p>The outer surface of the pipe must be cleaned and pre-treated in the same way as for FRANK puddle flanges diameter 32 to 315 mm (see page 8, section 1.).</p>	
<p>2. Installing the puddle flange</p> <p>The puddle flange is fitted in the same way as for puddle flanges diameter 32 to 315 mm (see page 8, section 2.).</p>	
<p>3. Preparing the clamping band</p> <p>A stainless steel clamping band is required at both sides of the walls as well as between the walls. The clamping band is laid in double layer and fastened with a single fastener. The total of 3 fasteners should be fitted at approx. 120° (degrees) from each other. A clamping tool is used for the installation. This tool is available from us for purchase or on loan with a security deposit.</p>	
<p>4. Installing the clamping band</p> <p>a) Use the band directly from the roll. Pull the loop through the band. Double the free end of the band and fit it around the puddle flange, bend it under the fastener and press it flat.</p>	
<p>b) Pull the band tight by hand and attach the clamping tool as shown. Press down on the gripping lever with your thumb. The band is tensioned by turning the hand crank. Crank until the band is uniformly tightly fitted on the collar. The collar walls must be vertical.</p>	
<p>c) When taut, screw the hexagonal Allen screw into the fastener and tighten it. Any excess band must be cut to approx. 8 cm in length using the tool's cutting device and bent over under the fastener.</p>	
<p>4. Ready-installed FRANK puddle flange</p>	

Hint:

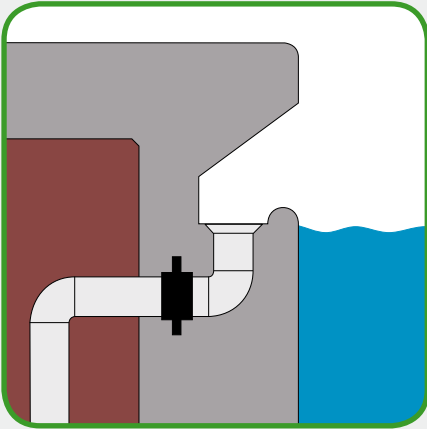
FRANK puddle flanges can only provide a complete seal on rigid pipes. Based on experience, the following limitations apply:

Steel, concrete, cast iron, fibre-reinforced cement, stoneware, GFK.....	d 1400 mm
PE and PP SDR 11 without FRANK fixing point.....	d 630 mm
PE and PP SDR 11 with FRANK fixing point.....	d 1400 mm
PE and PP SDR 17 and SDR 33 without FRANK fixing point.....	d 450 mm
PE and PP SDR 17 and SDR 33 with FRANK fixing point.....	d 1400 mm
PVC without fixing point.....	d 500 mm

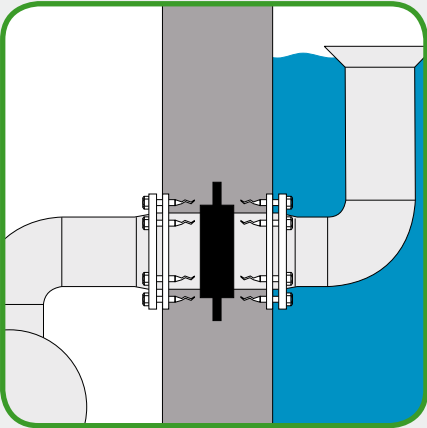


Over 700.000 successful applications

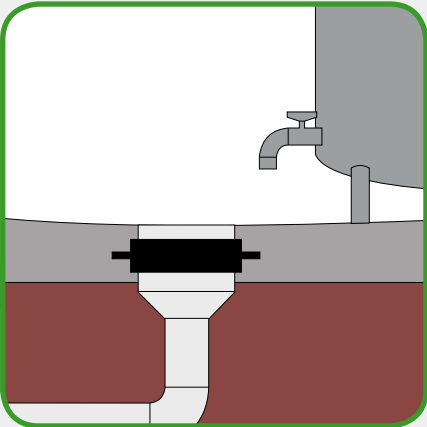
- Drains in walls and floor slabs when constructing swimming pools



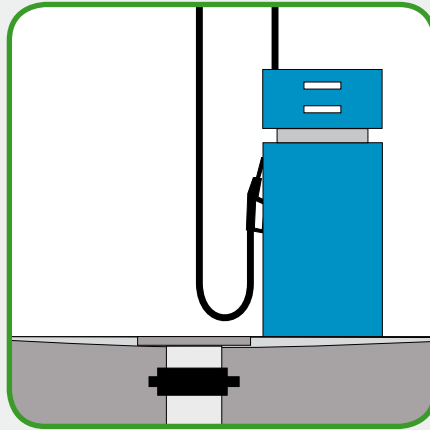
- Ready-made wall ducts with flange connections on both sides for easy installation into the mould



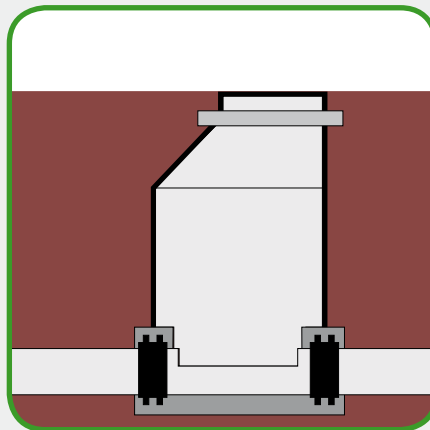
- Industrial floor drains



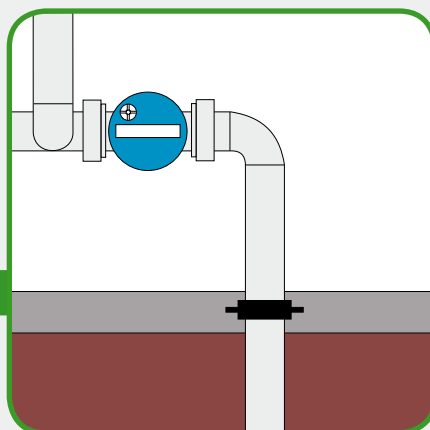
Over 700.000 successful applications



- FRANK puddle flanges made of oil and petrol-resistant NBR, for use e.g. in petrol stations



- Any diameter of pipe fixings in concrete shafts



- House service for water supply and drainage pipes

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