www.ostendorf-kunststoffe.com

Ostendorf Kunststoffe

Issue date 03/2025

HT Safe® & Skolan Safe®

Powerful as soloists, unbeatable as a duet.

Skolan safe®

HT safe®

The safe system

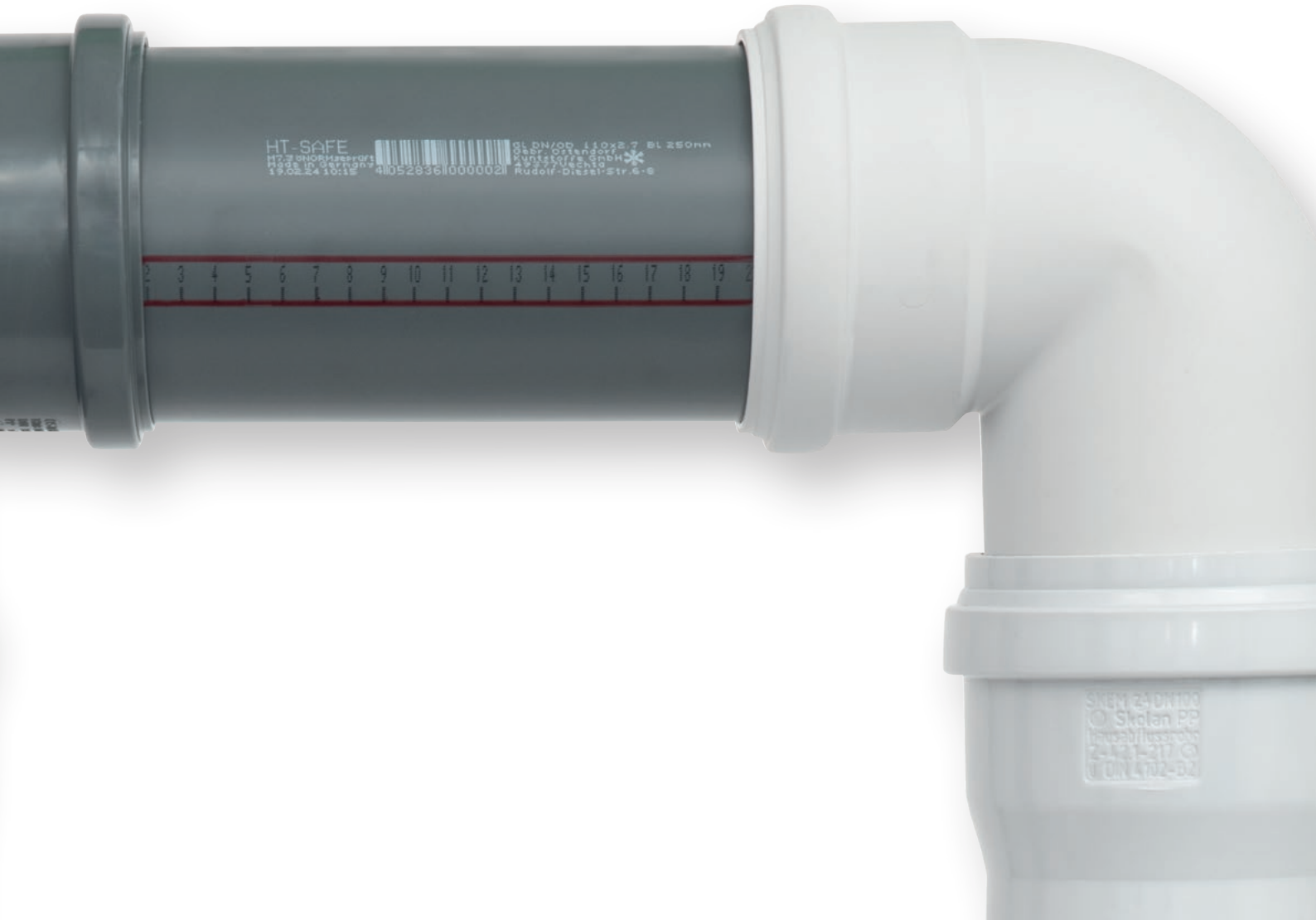
In perfect technical and economical harmony, this is premium quality made in Germany with a full 25-year warranty.

Ostendorf Kunststoffe

Some say that you can‘t go wrong with building drainage.

We say: oh, yes you can.

There’s a reason why we gave HT Safe® and Skolan Safe® those specific names. Both plastic pipe systems are the result of the most intensive development work and are characterised in particular by maximum safety. **Thanks to high quality materials, clever design and our high-performance triple lip seal, you can kick back and forget about both systems once they have been installed.**



Family home or major project: our dream team has you covered. Individually or together.

To avoid any misunderstandings: the sound-insulating HT Safe® also ensures low noise emissions by itself. But the highly sound-insulating Skolan Safe® is *even* quieter thanks to its thicker walls and the special plastic we use. Obviously the next logical step is then to combine both systems. For example, by using HT Safe® in the connecting pipe and Skolan Safe® in the downpipe.

HT Safe® represents the latest generation of building drainage. High acoustic insulation, maximum safety, a 25-year guarantee and 100% recyclable.

21dB*

High-performance 3-lip seal
Secure and easy to install

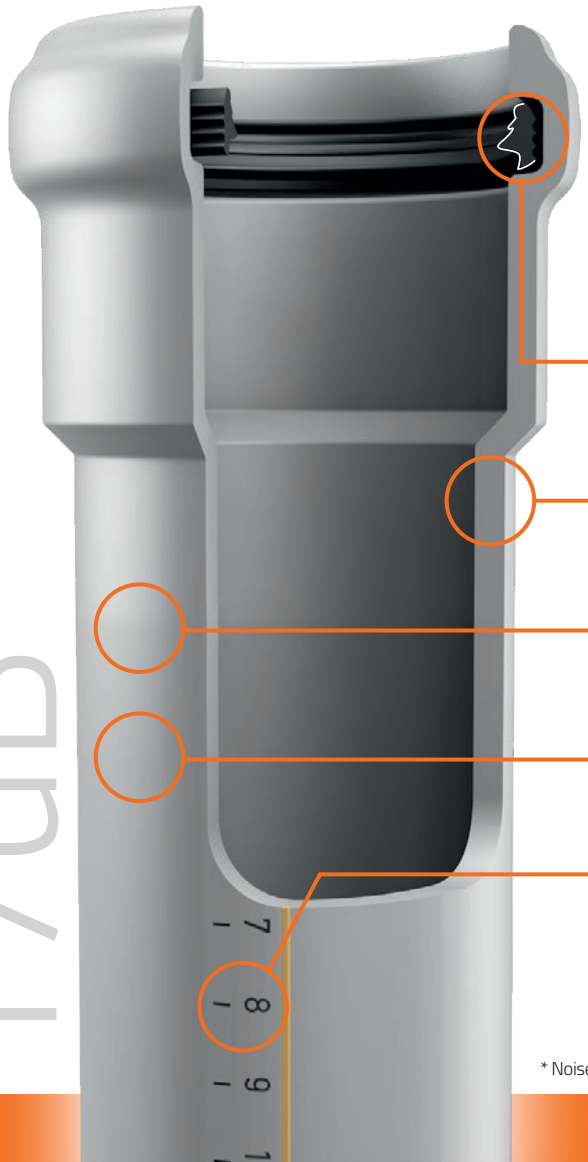
Striking color
RAL 7043

Formula of the PP
Flame retardant according to DIN 4102 (B1) and DIN EN 1451-1

Functional and proven centimeter markings
Easy handling and quick processing

* Sound emission at 4 liter volume discharge according to measurements with Bismat 1000 (P-BA 222/2016).

Psst, can you hear anything? No? This makes **Skolan Safe®** the pipe system for complex building construction. It unites all the advantages of the HT Safe®-System with even better acoustic insulation and also comes with a 25-year warranty. Of course, Skolan Safe® is also 100% recyclable.



17dB*

High-performance 3-lip seal
Secure and easy to install

Material: mineral-reinforced polypropylene
Normal inflammability as per DIN 4102 (B2)

Smoother outside surface
With anti-smearing properties

Color
Lightgrey RAL 7035

Functional and proven centimeter markings
Easy handling and quick processing

* Noise emission at 4 liters volume flow as measured with Bismat 1000 (P-BA 221/2016)

HT Safe®
The new standard in building drainage

- Made in Germany
- 25-year guarantee
- DN/OD 32 –160
- High-performance triple seal inserted in the factory (replaceable NBR sealing ring)
- Maximum safety and push-fit connection in seconds with minimum effort, using installation practices employed by the HVAC trade
- 21 dB(A)* sound insulation according to DIN EN 14366 and in accordance with DIN 4109 (Fraunhofer Institute)
- Dimensional classification
- Production according to DIN EN 1451-1
- Germany's first and only standardised acoustically insulated pipe system with B1 fire protection.
- Fire protection collars approved by commercially available manufacturers
- Pull-out protection for lifting stations and rainwater pipes
- Approved for central vacuum systems
- Sustainable, economic and practical
- Full pipe system 100% recyclable

* Sound emission at 4 liter volume discharge according to measurements with Bismat 1000 (P-BA 222/2016).

Fraunhofer IBP | POB 80 04 69 | 70504 Stuttgart, Germany

Gebr. Ostendorf Kunststoffe GmbH
Rudolf-Diesel-Str. 6-8
49377 Vechta
Germany

Fraunhofer Institute for Building Physics IBP

Directors
Prof. Dr. Philip Leistner
Prof. Dr. Klaus Peter Sedlbauer

Nobelstr. 12
70569 Stuttgart

Dipl.-Ing. (FH) Joachim Mohr
Building Acoustics
Phone +49 711 970-3348 | Fax -970-3406
joachim.mohr@ibp.fraunhofer.de
www.ibp.fraunhofer.de

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Mo

Stuttgart, June 9, 2017

Determination of the Acoustic Performance of a Wastewater Installation System in the Laboratory according to EN 14366 and following DIN 4109; Extract from test report P-BA 222/2016

On October 25, 2016 the determination of the acoustic performance of a wastewater installation system was performed in the technical centre of the Fraunhofer Institute for Building Physics on a plastic wastewater installation system **"HT Safe DN/OD 110 x 2.7 PP-H" (manufacturer Ostendorf) with pipe clamps "BISMAT 1000" (manufacturer Walraven).** Below measurement results are stated in extracts. Precise information about test object, test set-up and test method as well as detailed measurement results can be found in the test report P-BA 222/2016.

Result:

		Flow rate [l/s]			
Test specimen: Plastic wastewater installation system "HT Safe DN/OD 110 x 2.7 PP-H" (manufacturer Ostendorf) with pipe clamps "BISMAT 1000" (manufacturer Walraven). In each storey (EG and UG) two pipe clamps were mounted. At the upper wall area of the installation wall one "Bismat 1000" loose clamp was installed (supporting clamp SL, DN 100). At the lower wall area of the installation wall one "Bismat 1000" double clamp consisting of supporting clamp (SL, DN 100) and fixing clamp (SX, DN 100) was installed. To prevent contact to the pipe, the loose clamps and the supporting clamps were equipped with two spacers (2 x 7.5 mm, black) on each side.		0,5	1,0	2,0	4,0
Installation sound level $L_{AFeq,n}$ [dB(A)] following DIN 4109 in the basement test-room	**UG rear**	**12**	**12**	**17**	**21**

Fraunhofer Institute for Building Physics IBP

(Dipl.-Ing.(FH) J. Mohr)

Fraunhofer-Institut für Bauphysik
Postfach 80 04 69 · D-70504 Stuttgart
Nobelstraße 12 · D-70569 Stuttgart

Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V., München
Executive Board
Prof. Dr.-Ing. habil. Prof. E. h. Dr.-Ing. E. h. mult. Dr. h. c. Dr. h. c. Reimund Neugebauer, Präsident
Prof. (Univ. Stellenbosch) Dr. rer. pol. Alfred Gossner
Prof. Dr. rer. publ. ass. iur. Alexander Kurz

Cheques and transfers payable to:
Deutsche Bank, München
Account 752193300 BLZ 700 700 10
IBAN DE86 7007 0010 0752 1933 00
BIC (SWIFT-Code) DEUTDEMM
V.A.T. Ident No. DE129515865
Tax Number 143/215/20392

Fraunhofer IBP

Fraunhofer Institute for Building Physics IBP

Directors
Prof. Dr. Philip Leistner
Prof. Dr. Klaus Peter Sedlbauer

Nobelstr. 12
70569 Stuttgart

Dipl.-Ing. (FH) Joachim Mohr
Building Acoustics
Phone +49 711 970-3348 | Fax -970-3406
joachim.mohr@ibp.fraunhofer.de
www.ibp.fraunhofer.de

Fraunhofer IBP | POB 80 04 69 | 70504 Stuttgart, Germany

Gebr. Ostendorf Kunststoffe GmbH
Rudolf-Diesel-Str. 6-8
49377 Vechta
Germany

Your Ref.	Your Message of	Our Ref.	
		Mo	Stuttgart, January 25, 2018

Determination of the Acoustic Performance of a Wastewater Installation System in the Laboratory according to EN 14366 and following DIN 4109. Extract from test report P-BA 221/2016

On October 25, 2016 the determination of the acoustic performance of a wastewater installation system was performed in the technical centre of the Fraunhofer Institute for Building Physics on a plastic wastewater installation system **"Skolan Safe, SKEM DN/OD 110 x 5.3, PP" (manufacturer Ostendorf) with pipe clamps "BISMAT 1000" (manufacturer Walraven).** Below measurement results are stated in extracts. Precise information about test object, test set-up and test method as well as detailed measurement results can be found in the test report P-BA 221/2016.

Result:

Test specimen: Plastic wastewater installation system "Skolan Safe, SKEM DN/OD 110 x 5.3, PP" (manufacturer Ostendorf) with pipe clamps "BISMAT 1000" (manufacturer Walraven). In each storey (EG and UG) two pipe clamps were mounted. At the upper wall area of the installation wall one "Bismat 1000" loose clamp was installed (supporting clamp SL, DN 100). At the lower wall area of the installation wall one "Bismat 1000" double clamp consisting of supporting clamp (SL, DN 100) and fixing clamp (SX, DN 100) was installed. To prevent contact to the pipe, the loose clamps and the supporting clamps were equipped with two spacers (2 x 7.5 mm, black) on each side.		Flow rate [l/s]			
		0,5	1,0	2,0	4,0
Installation sound level $L_{AFeq,n}$ [dB(A)] following DIN 4109 in the basement test-room	**UG rear**	**<10**	**<10**	**12**	**17**

Fraunhofer Institute for Building Physics IBP

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Cheques and transfers payable to:
Deutsche Bank, München
Account 752193300 **BLZ** 700 700 10
IBAN DE86 7007 0010 0752 1933 00
BIC (SWIFT-Code) DEUTDEMM
V.A.T. Ident No. DE129515865
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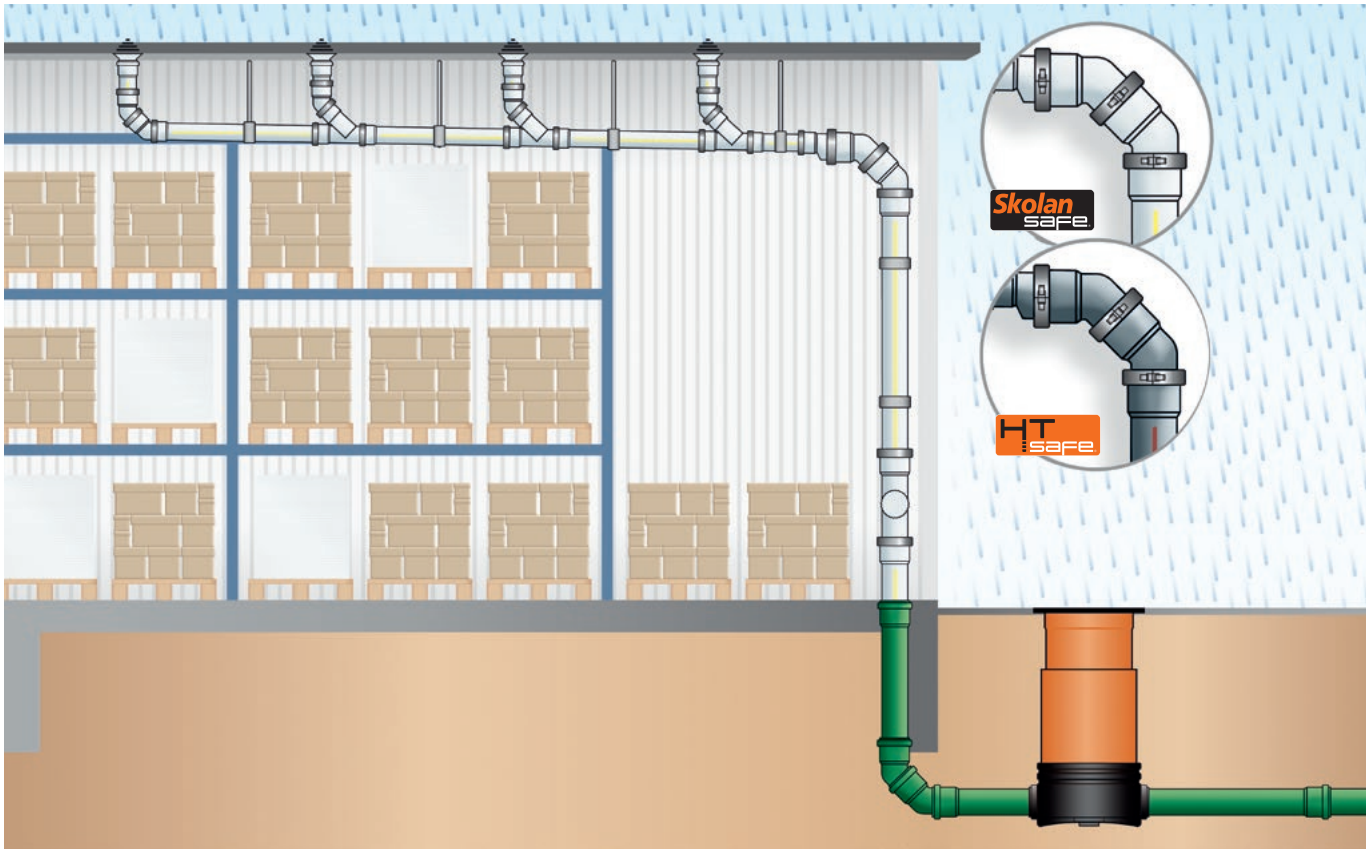
Skolan Safe®

The trend-setting complete solution for all areas of complex building construction.

- Made in Germany
- 25-year guarantee
- DN/OD 58 –200
- High-performance triple seal inserted in the factory (replaceable NBR sealing ring)
- Maximum safety and push-fit connection in seconds with minimum effort, using installation practices employed by the HVAC trade
- 17 dB(A)* sound insulation according to DIN EN 14366 and in accordance with DIN 4109 (Fraunhofer Institute)
- Dimensional classification
- Production according to Z-42.1-217
- Fire protection collars approved by commercially available manufacturers
- Pull-out protection for lifting stations and rainwater pipes
- Drainage up to the transfer shaft
- Approved for central vacuum systems
- Sustainable, economic and practical
- Full pipe system 100% recyclable

* Noise emission at 4 liters volume flow as measured with Bismat 1000 (P-BA 221/2016)

Pull-out protection for internal roof drainage



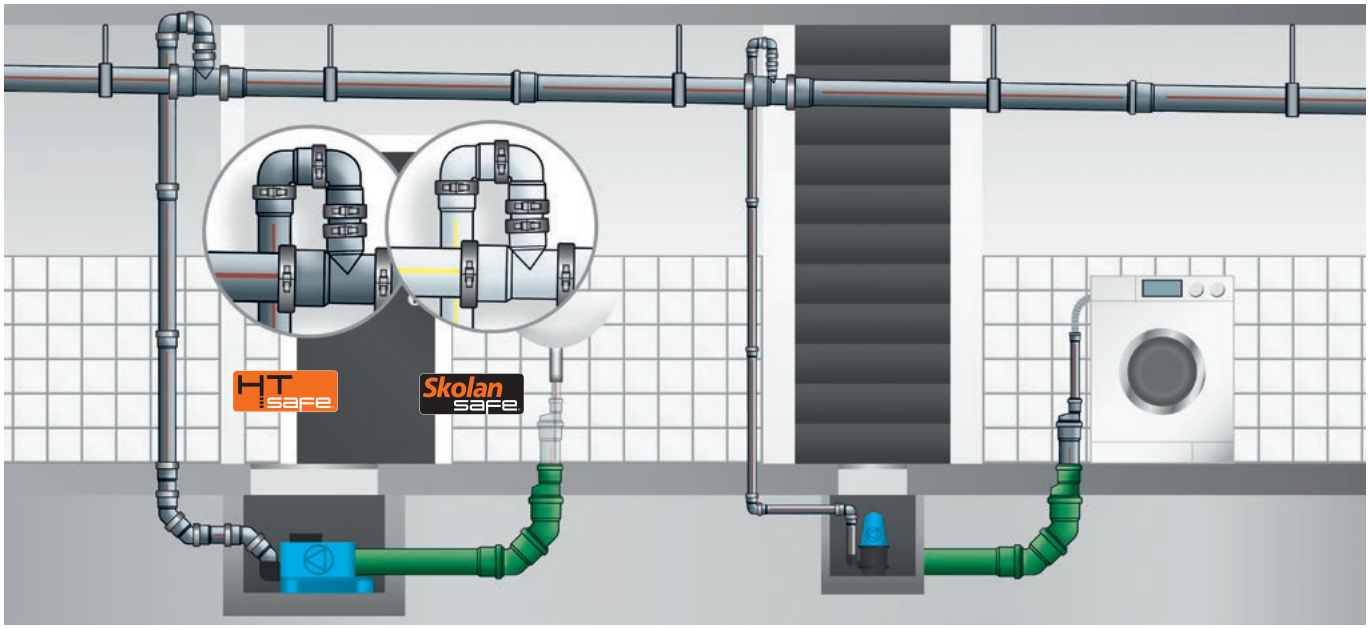
The stability and functionality of interior rainwater drainage must be guaranteed by a secure connection (DIN EN 12056-3). Wastewater pipes installed in the building are exposed to greater internal pressures due to certain loads (e.g. the rainwater drainage pipe during heavy rainfall), such as, for example:

- Rainwater drains that are located in the backwater area (usually in the cellar)
- Rainwater downpipes that lead from the roof through several storeys without other run-off points
- Rainwater pipes in the area of the bends from the downpipe to the collector pip (especially with a downpipe height of over 22 m)
- Delivery pipe of sewage lifting units

The pull-out protection is simply slid over the connections - first the connection is checked for a proper fit, then the claw is then hooked into the holding end with the tension lock and the clamping bracket is pressed tight.

An assembly tool is not required.

Pull-out protection
for lifting stations and immersion pump systems



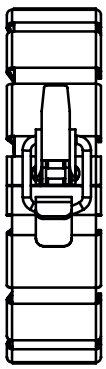
- Strong hold of the push-fit connections with increased loads on the pipework
- Pull-out protection in the event of pressurisation and backwater
- Pull-out protection can be released again if required
- The delivery pipe must withstand at least 1.5 times the max. pump pressure of the system

Wastewater that accumulates above the backwater level must be drained into the sewer system with a free gradient. If the gradient towards the sewer is not sufficient, the wastewater must be channelled into the sewer using a waste-water lifting station - the installation requirements according to DIN EN 12056-4 also apply in this case. For use below backwater level, the pump delivery pipe must be channelled and secured with a loop above the locally specified back-water level in accordance with DIN EN 12056.

The delivery pipe must be secured with fixing clamps in such a way that pressure surges do not affect the pipe routing when the lifting unit is pumping out. If necessary, mounting brackets must be installed. The pipes must be laid stress-free.

HT Safe® – Pull-out Protection

No.	Description	Unit/ crt	Unit/ pallet
881590	Pull-out Protection DN/OD 32	18	-
881595	Pull-out Protection DN/OD 40	14	-
881500	Pull-out Protection DN/OD 50	50	-
881510	Pull-out Protection DN/OD 75	30	-
881520	Pull-out Protection DN/OD 90	20	-
881535	Pull-out Protection DN/OD 110	26	-
881540	Pull-out Protection DN/OD 125	15	-
881555	Pull-out Protection DN/OD 160	10	-



Skolan Safe® – Pull-out Protection

No.	Description	Unit/ crt	Unit/ pallet
881505	Pull-out Protection DN/OD 58	50	-
881515	Pull-out Protection DN/OD 78	30	-
881520	Pull-out Protection DN/OD 90	20	-
881535	Pull-out Protection DN/OD 110	26	-
881545	Pull-out Protection DN/OD 135	15	-
881555	Pull-out Protection DN/OD 160	10	-
881565	Pull-out Protection DN/OD 200	10	-

The strong Ostendorf AZS guarantees a permanently secure connection wherever the push-fit connections are exposed to particularly high pull-out forces. Can be used for lifting stations (according to MPA Darmstadt) and rainwater downpipes up to 2 bar overpressure.

Assembly application of the Ostendorf AZS, taking into account the pumping and control equipment of the lifting station and immersion pump manufacturer.

Overview of manufacturers of fire protection collars

HT safe

- BIS Walraven
- Doyma
- Conel
- Hilti
- Rockwool
- Würth
- Air Fire Tech
- UBA-Tec

and other approved fire protection systems for HT Safe® according to **DIN EN 1451-1**

Skolan safe

- Missel
- BIS Walraven
- Doyma
- Conel
- Hilti
- Rockwool
- Würth
- Air Fire Tech
- UBA-Tec

and other fire protection systems approved for Skolan Safe® according to **approval Z-42.1-217**

Soundproof in building construction
According to DIN 4109 abd VDI 4100

DIN 4109 is stated in building regulations and is legally binding. With the DIN 4109 edition of 2016, the maximum permissible sound levels for wastewater technology at 30 dB (A) have been maintained.

BUILDING TYPES with sound insulation requirements	**Increased sound insulation according to VDI 4100** **Sound insulation level SST I** (≤ 30 dB(A))	**Increased sound insulation according to VDI 4100** **Sound insulation level SST II** (≤ 27 dB(A)) Recommended according to VDI	**Increased sound insulation according to VDI 4100** **Sound insulation level SST III** (≤ 24 dB dB(A)) Recommended according to VDI
 Family Homes	HT safe	HT safe	HT safe * Skolan safe
 Condominiums	HT safe	HT safe	HT safe * Skolan safe
 Apartments	HT safe	HT safe	HT safe * Skolan safe

* Sound emission at 4 liter volume discharge according to measurements with Bismat 1000 (P-BA 222/2016).


Mahlsteel


Ostendorf
Kunststoffe

Gebr. Ostendorf Kunststoffe GmbH · Rudolf-Diesel-Straße 6–8 · D-49377 Vechta
Fon +49 (0) 4441 874-10 · Fax +49 (0) 4441 874-15 · verkauf@ostendorf-kunststoffe.com · www.ostendorf-kunststoffe.com

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