

Specification texts sewage system

Norm Conformity

The sewage system of PE 100 complies with EN 12666 and hence is deemed a regulated construction product. It therefore does not need general approval from the building authorities. A certificate of conformity issued by DIBt® of Berlin has been submitted.

The connecting spigot ASA MULTI has been granted general approval from the building authorities. The approval certificate can be found at www.friafit.com in the download area.

Moreover, couplers SDR17 comply with the requirements under EN 12201 and ISO 4427.

Couplers SDR17 have been certified under DVGW GW 335-B2 (certificates DV-8606BO6114 and DV-8611BO6115) and are subjected to regular monitoring by external agencies.

Fusability

Safety fittings can be fused.

- Generally to SDR33 – SDR11 pipes
- Couplers and sewage elbows to SDR33 – SDR17 pipes.

Please also note the details for each of the fusible SDR sizes given on the fitting's barcode label as well as all other binding codes affixed directly to the product. Please consult our application engineering department before processing thin walled pipes > SDR33.

Safety fittings can be processed with pipes of PE 100 and PE 100RC, PE 80 under EN 12666, DIN 8074/75, EN 1555-2, EN 12201-2, ISO 4437, and ISO 4427, PE-Xa under DIN 16892/93. For PE pipes, the melt flow rate 190/5 is 0.2–1.7 g / 10 min.

Components with an MFR < 0.20 require confirmation of suitability. Safety fittings can be processed with fusion units at ambient temperatures from -10 °C to +45 °C.

Material transition fusions must comply in addition with the standards and assembly guidelines specific to these materials or this system.

On restrictions in certain cases affecting the installation and processing of safety fittings in general, please read our assembly instructions. Also our inhouse customer advisers will be pleased to answer any questions you may have.

Specification texts for HD-PE sewer pipes can be requested from their respective manufacturers.

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Further details can be taken from the following pages.

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1.0		<p>Couplers SDR 17</p> <p>for permanently tight HD-PE pipe joins of high axial strength and root resistance</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> - Size PE 100 / SDR 17 - Both pipe ends can be welded in the one operation, max d 450 - Preheating system from d 560 - Exposed, fixed heating coil without PE sheathing, for optimal heat transfer during fusion: <ul style="list-style-type: none"> • installation without holding device • short cooling times - Outer coupler reinforcement for enhanced join quality, from d 200 - Large insertion depth - Extra wide fusion zone - Extra long cold zones at the front sides and centre for improved pipe-routing and eliminated melt discharge - Barcodes for fully automated fusion - Safety contacts for fixed and all insulated connections to fusion equipment - Temperature compensation (auto fusion time adjust to ambient temperature) - Barcode allows automatic traceability of the fitting - Processing of the fittings according DVS 2207-1 - Indelibly stamped batch identification - Individually packaged in a sheet bag - DIN EN 10204 – 3.1 inspection test certificate on request - Max. operating pressure 10 bar (water/sewage) - DVGW registration in compliance with VP 607/GW335-B2 <p><u>Available in the sizes</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 20%;">d 110</td> <td style="width: 20%;">d 200</td> <td style="width: 20%;">d 315</td> <td style="width: 20%;">d 500</td> <td style="width: 20%;">d 800</td> </tr> <tr> <td>d 125</td> <td>d 225</td> <td>d 355</td> <td>d 560</td> <td>d 900</td> </tr> <tr> <td>d 160</td> <td>d 250</td> <td>d 400</td> <td>d 630</td> <td></td> </tr> <tr> <td>d 180</td> <td>d 280</td> <td>d 450</td> <td>d 710</td> <td></td> </tr> </table>	d 110	d 200	d 315	d 500	d 800	d 125	d 225	d 355	d 560	d 900	d 160	d 250	d 400	d 630		d 180	d 280	d 450	d 710			
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2.0		<p>Relining Slide-over Couplers</p> <p>for connection from relining pipe to standard HD-PE pipe</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> – Size PE 100 / SDR 17 – Preheating system for gap reduction between coupler and pipe possible – Exposed, fixed heating coils without PE sheathing, for optimal heat transfer during fusion: <ul style="list-style-type: none"> • installation without holding device • short cooling times – Outer coupler reinforcement for enhanced join quality – Large insertion depth – Extra wide fusion zone – Extra long cold zones at the end and in the transition area to prevent the flow of molten material – Barcodes for fully automated fusion – Barcode allows automatic traceability of the fitting – Processing of the fittings according DVS 2207-1 – Safety contacts for fixed and all insulated connections to fusion equipment – Temperature compensation (auto fusion time adjust to ambient temperature) – Indelibly stamped batch identification – Individually packaged in a sheet bag – DIN EN 10204 – 3.1 inspection test certificate on request – Max. operating pressure 10 bar (water/sewage) – DVGW registration in compliance with VP 607/GW335-B2 <p><u>Available in the sizes</u></p> <p>d 110 / DN 100 d 160 / DN 150 d 315 / DN 300</p>		

Item	Qty.	Text	UP	TP
3.0		<p>Sewage bends (coupler/coupler)</p> <p>for directional changes in HD-PE sewage connection pipes</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> – Both pipe ends can be fused in one operation – Compact design for little space requirements – Integrated fusion coupler for shorter assembly times – Level passage in combination with SDR 17/17.6 connection pipes, unobstructed drainage – Corrosion resistant HD-PE component (PE 100) – Bright internal surface for continuous component inspection with cameras – Bend geometry for optimised hydraulic properties – Exposed, fixed heating coil without PE sheathing, for optimal heat transfer during fusion: <ul style="list-style-type: none"> • installation without holding device • short cooling times – Short welding times – Large insertion depth – Extra wide fusion zone – Extra long cold zones for improved pipe routing and to prevent the flow of molten material – Barcodes for fully automated fusion – Barcode allows automatic traceability of the fitting – Processing of the fittings according DVS 2207-1 – Safety contacts for fixed and all insulated connections to fusion equipment – Indicators for visual fusion verification – Temperature compensation (auto fusion time adjust to ambient temperature) – Indelibly stamped batch identification – Individually packaged in a sheet bag – DIN EN 10204 – 3.1 inspection test certificate on request – Max operating pressure 2.5 bar (sewage) <p>Angular divisions 15°, 30°, and 45°</p> <p><u>Available in the size</u></p> <p>d 160</p>		

Item	Qty.	Text	UP	TP
4.0		<p>Sewage bends (coupler/pipe spigot)</p> <p>for directional changes in HD-PE sewage connection pipes or direct fusion in the sewage saddle</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> - I/A design: coupler / spigot end - Multiple applications or combination with sewage elbow for universal changes in direction - Compact design for small space requirements - Integrated fusion coupler for shorter assembly times - Level passage in combination with SDR 17/17.6 connection pipes, unobstructed drainage - Corrosion resistant HD-PE component (PE 100) - Bright internal surface for continuous component inspection with cameras - Bend geometry for optimised hydraulic properties - Exposed, fixed heating coil without PE sheathing, for optimal heat transfer during fusion: <ul style="list-style-type: none"> • installation without holding device • short cooling times - Short fusion times - Large insertion depth - Extra wide fusion zone - Extra long cold zones before and after the fusion area for improved pipe routing and to prevent the flow of molten material - Barcodes for fully automated fusion - Barcode allows automatic traceability of the fitting - Processing of the fittings according DVS 2207-1 - Safety contacts for fixed and all insulated connections to fusion equipment - Indicators for visual fusion verification - Temperature compensation (auto fusion time adjust to ambient temperature) - Indelibly stamped batch identification - Individually packaged in a sheet bag - DIN EN 10204 – 3.1 inspection test certificate on request - Max. operating pressure 2.5 bar (sewage) <p>Angular divisions 15°, 30°, and 45°</p> <p><u>Available in the size</u></p> <p>d 160</p>		

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5.0		<p>Sewage insert sleeve incl. water absorbent sealing ring Q</p> <p>– for the jointed integration of HD-PE pipes in DIN V 4034 and DWA – A 157 concrete chambers in conjunction with the sewage inspection chamber adapter</p> <p>– for the jointed integration of HD-PE pipes in masonry chambers in conjunction with the sewage inspection chamber adapter</p> <p>Attributes</p> <ul style="list-style-type: none"> – Elastomer sealant joint on the sewage inspection chamber adapter for equalising <ul style="list-style-type: none"> • max 3° deflections • tensile stress in the PE pipe – Two sealing rings safeguard the optimal press fit in the sewage inspection chamber adapter – Sealing rings comply with the general requirements under DIN EN 681 and DIN 4060 – Water absorbent sealing ring Q for additional safety – Expands to ten times its initial volume on contact with water – Threefold sealing system with optimised fit – Exposed, fixed heating coil without PE sheathing, for optimal heat transfer during fusion: <ul style="list-style-type: none"> • installation without holding device • short cooling times – Outer coupler reinforcement for enhanced join quality, from d 200 – Large insertion depth – Extra wide fusion zone – Extra long cold zones at the front side and centre for improved pipe routing and to prevent the flow of molten material – Barcodes for fully automated fusion – Barcode allows automatic traceability of the fitting – Processing of the fittings according DVS 2207-1 – Safety contacts for fixed and all insulated connections to fusion equipment – Temperature compensation (auto fusion time adjust to ambient temperature) – Indelibly stamped batch identification – Individually packaged in a sheet bag – DIN EN 10204 – 3.1 inspection test certificate on request <p>Available in the sizes</p> <table data-bbox="437 1794 1225 1921"> <tr> <td>d 110</td> <td>d 225</td> <td>d 355</td> <td>d 560</td> </tr> <tr> <td>d 160</td> <td>d 250</td> <td>d 400</td> <td>d 630</td> </tr> <tr> <td>d 180</td> <td>d 280</td> <td>d 450</td> <td></td> </tr> <tr> <td>d 200</td> <td>d 315</td> <td>d 500</td> <td></td> </tr> </table>	d 110	d 225	d 355	d 560	d 160	d 250	d 400	d 630	d 180	d 280	d 450		d 200	d 315	d 500			
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6.0		<p>Sewage inspection chamber adapter</p> <p>Connecting element between precast concrete chamber and sewage insert sleeve</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> – Corrosion resistant HD-PE component – Anchoring webs over the whole component width for secure installation in concrete (T section) – Large wall thickness for stable internal diameter and hence optimised fit – Flush end connection (inside and outside) at bottom of concrete chamber (DIN V 4034) – Safeguards in conjunction with a test pressure of 0.5 bar in compliance with DIN EN 1610 <p><u>Available in the sizes</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">d 110</td> <td style="width: 25%;">d 225</td> <td style="width: 25%;">d 355</td> <td style="width: 25%;">d 560</td> </tr> <tr> <td>d 160</td> <td>d 250</td> <td>d 400</td> <td>d 630</td> </tr> <tr> <td>d 180</td> <td>d 280</td> <td>d 450</td> <td></td> </tr> <tr> <td>d 200</td> <td>d 315</td> <td>d 500</td> <td></td> </tr> </table>	d 110	d 225	d 355	d 560	d 160	d 250	d 400	d 630	d 180	d 280	d 450		d 200	d 315	d 500			
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7.0		<p>Sewage inspection chamber adapter</p> <p>Special length 250 mm for masonry chambers</p> <p>Connecting element between masonry chamber and sewage insert sleeve</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> – Corrosion resistant HD-PE component – Retrofit on masonry chambers – Anchoring webs over the whole component width for secure installation in concrete (T section) – Large wall thickness for stable internal diameter and hence optimised fit – Safeguards in conjunction with a test pressure of 0.5 bar in compliance with DIN EN 1610 <p><u>Available in the sizes</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">d 225</td> <td style="width: 25%;">d 315</td> <td style="width: 25%;">d 450</td> <td style="width: 25%;">d 630</td> </tr> <tr> <td>d 280</td> <td>d 355</td> <td>d 560</td> <td></td> </tr> </table>	d 225	d 315	d 450	d 630	d 280	d 355	d 560											
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Item	Qty.	Text	UP	TP												
8.0		<p>Sewage saddle, top loading</p> <p>for joining sewage service pipes to HD-PE waste water ducts in new installations or as retrofit</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> – Corrosion resistant HD-PE component – Small space requirements for ease of installation – Direct integration of connecting pipes without disruptive offsets or obstruction to drainage – Exposed, fixed heating coil without PE sheathing in the saddle weld zone for direct heat transfer to the pipe’s fusion surface – With integrated fusion coupler d 160 (DN 150) in the tap off – Extra wide fusion zones – Extra long cold zones at the saddle and in the tap off to prevent the flow of molten material – Barcodes for fully automated fusion – Barcode allows automatic traceability of the fitting – Processing of the fittings according DVS 2207-1 – Safety contacts for fixed and all insulated connections to fusion equipment – Temperature compensation (auto fusion time adjust to ambient temperature) – Indelibly stamped batch identification – Individually packaged in a sheet bag – DIN EN 10204 – 3.1 inspection test certificate on request – Max. operating pressure 2.5 bar (sewage) <p>Processing requires a clamping and drilling unit.</p> <p><u>Available in the sizes</u></p> <table data-bbox="424 1487 1177 1621"> <tr> <td>d 200/160 ①</td> <td>d 315/160 ①</td> <td>d 500/160 ①</td> </tr> <tr> <td>d 225/160 ①</td> <td>d 355/160 ①</td> <td>d 560/160 ①②</td> </tr> <tr> <td>d 250/160 ①</td> <td>d 400/160 ①</td> <td>d 630/160 ①②</td> </tr> <tr> <td>d 280/160 ①</td> <td>d 450/160 ①</td> <td></td> </tr> </table> <p>① For installation on Close-Fit-Inliner and d 560 and d 630 please contact our hotline</p> <p>② Clamping unit required</p>	d 200/160 ①	d 315/160 ①	d 500/160 ①	d 225/160 ①	d 355/160 ①	d 560/160 ①②	d 250/160 ①	d 400/160 ①	d 630/160 ①②	d 280/160 ①	d 450/160 ①			
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d 280/160 ①	d 450/160 ①															

Item	Qty.	Text	UP	TP									
9.0		<p>Transition saddle, top loading</p> <p>with integrated plug-in sleeve for joining DN 150 sewage service pipes of PVC or PP to HD-PE waste water ducts in new installations or as retrofit</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> – Corrosion resistant HD-PE component – Small space requirements for ease of installation – Direct integration of connecting pipes without disruptive offsets or obstruction to drainage – Exposed, fixed heating coil without PE sheathing in the saddle fusion zone for direct heat transfer to the pipe's fusion surface – With integrated DN 150 plug-in sleeve (internal diameter) in the tap off; connecting pipes of PVC or PP are inserted directly in the sleeve section – Large insertion depth for reliable connection pipe routing – SBR lip seal complying with EN 681-1 – Extra wide fusion zone at the saddle – Extra long cold zones at the saddle to prevent the flow of molten material – Barcodes for fully automated saddle fusion – Barcode allows automatic traceability of the fitting – Processing of the fittings according DVS 2207-1 – Safety contacts for fixed and all insulated connections to fusion equipment – Temperature compensation (auto fusion time adjust to ambient temperature) – Indelibly stamped batch identification – Individually packaged in a sheet bag – DIN EN 10204 – 3.1 inspection test certificate on request – Max. operating pressure 0.5 bar (sewage) <p>Processing requires a clamping and drilling unit.</p> <p><u>Available in the sizes</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">d 225/ DN150 ①</td> <td style="width: 33%;">d 355/ DN150 ①</td> <td style="width: 33%;">d 560/ DN150 ①②</td> </tr> <tr> <td>d 280/ DN150 ①</td> <td>d 450/ DN150 ①</td> <td>d 630/ DN150 ①②</td> </tr> <tr> <td>d 315/ DN150 ①</td> <td>d 500/ DN150 ①</td> <td></td> </tr> </table> <p>① For installation on Close-Fit-Inliner and d 560 and d 630 please contact our hotline</p> <p>② Clamping unit required</p>	d 225/ DN150 ①	d 355/ DN150 ①	d 560/ DN150 ①②	d 280/ DN150 ①	d 450/ DN150 ①	d 630/ DN150 ①②	d 315/ DN150 ①	d 500/ DN150 ①			
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d 315/ DN150 ①	d 500/ DN150 ①												

Item	Qty.	Text	UP	TP
10.0		<p>Spigot saddle, with outlet spigot SDR 17</p> <p>for integration of a branch line in PE pipelines – unpressurised or under operating pressure</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> – Compact fitting made of HD-PE – Corrosion resistant – Small space requirements for ease of installation – Direct integration of connecting pipes without disruptive offsets or obstruction to drainage – Exposed, fixed heating coil without PE sheathing in the saddle fusion zone for direct heat transfer to the pipe's fusion surface – The outlet spigot d 160 offers a levelled passage when using pipes SDR 17/17.6 – For processing with couplers or bends – Extra wide fusion zones – Extra long cold zones at the saddle to prevent the flow of molten material – Suitable for all pipe diameters in the given range using a clamping unit – Tapping in unpressurised condition with tapping kit – Barcodes for fully automated fusion – Barcode allows automatic traceability of the fitting – Processing of the fittings according DVS 2207-1 – Safety contacts for fixed and all insulated connections to fusion equipment – Temperature compensation (auto fusion time adjust to ambient temperature) – Indelibly stamped batch identification – Individually packaged in a sheet bag – DIN EN 10204 – 3.1 inspection test certificate on request – Max. operating pressure 2.5 bar (sewage) <p>Processing requires a clamping unit.</p> <p><u>Available in the sizes</u></p> <p>d 630 – d 900 / d 160</p> 		

Item	Qty.	Text	UP	TP
11.0		<p>Sewage saddle, Vacuum-Loading</p> <p>for jointing of large branches at HD-PE main pipes with less effort, minimal underground work and without interrupting the operation</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> – Compact fitting made of HD-PE – Corrosion resistant – Small space requirements for ease of installation – Direct integration of connecting pipes without disruptive offsets or obstruction to drainage – Exposed, fixed heating coil without PE sheathing in the saddle fusion zone for direct heat transfer to the pipe's fusion surface – The outlet spigot d 225 for use with couplers or transition couplers d 225 on PVC/PP DN 200 – Level passage in combination with SDR 17/17.6 connection pipes, unobstructed drainage – Extra wide fusion zones – Extra long cold zones at the saddle to prevent the flow of molten material – Innovative vacuum clamping unit for safe bridging of even large pipe out-of-roundness's and pipe shape deviations – Tapping in unpressurised condition with tapping kit – Barcodes for fully automated fusion – Barcode allows automatic traceability of the fitting – Processing of the fittings according DVS 2207-1 – Safety contacts for fixed and all insulated connections to fusion equipment – Temperature compensation (auto fusion time adjust to ambient temperature) – Indelibly stamped batch identification – Individually packaged in a sheet bag – DIN EN 10204 – 3.1 inspection test certificate on request – Max. operating pressure 2.5 bar (sewage) <p>Processing requires a clamping unit and a tapping kit.</p> <p><u>Available in the sizes</u></p> <p>d 315 / d 225*</p> <p>d 355 / d 225</p> <p>d 400 / d 225*</p> <p>d 450 / d 225</p> <p>d 500 / d 225*</p> <p>d 560 / d 225</p> <p>d 630 / d 225</p> <p>d 710 / d 225*</p> <p>* Cross-dimensional processing</p>		

Item	Qty.	Text	UP	TP									
12.0		<p>Connecting Spigot to clay and concrete pipes</p> <p>for the connection of fused HD-PE service pipes or side branches to clay or concrete mains. For new installations as well as rehabilitation – without separating or completely exposing the main sewer</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> – Corrosion resistant HD-PE component – Small space requirements for ease of installation – The outlet spigot d 160 offers a levelled passage when using pipes SDR 17/17.6. – Its bright inner surface facilitates an optimal view during camera inspection – Fusible with couplers or bends – Indelibly stamped batch identification – Individually packaged in a sheet bag – DIN EN 10204 – 3.1 inspection test certificate on request – Max. operating pressure 0.5 bar (sewage) – The tapping take place with a usual core drill fitted with a standard tapping bit of d = 172 mm <p>For the assembly the assembly key is required</p> <p><u>Available in the sizes</u></p> <table data-bbox="422 1171 1185 1263"> <tr> <td>DN 250 ①</td> <td>d 160</td> <td>Order-Ref. 682650</td> </tr> <tr> <td>DN 300 / DN 350 ②</td> <td>d 160</td> <td>Order-Ref. 682651</td> </tr> <tr> <td>DN 250 / DN 300 ③</td> <td>d 160</td> <td>Order-Ref. 682651</td> </tr> </table> <ul style="list-style-type: none"> ① Suitable for connection to clay pipes DN 250 N and DN 250 H (standard and high-performance series EN 295) ② Suitable for connection to clay pipes DN 300/350 N and DN 300 /DN 350 H (standard and high-performance series EN 295) ③ Suitable for connection to concrete pipes DN 250/DN 300 (EN1916) 	DN 250 ①	d 160	Order-Ref. 682650	DN 300 / DN 350 ②	d 160	Order-Ref. 682651	DN 250 / DN 300 ③	d 160	Order-Ref. 682651		
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DN 300 / DN 350 ②	d 160	Order-Ref. 682651											
DN 250 / DN 300 ③	d 160	Order-Ref. 682651											

Item	Qty.	Text	UP	TP
13.0		<p>Transition coupler</p> <p>material transition of HD-PE pipes to PVC/PP pipes in house service connections</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> – Corrosion resistant HD-PE component – With integrated fusion coupler – Barcode allows automatic traceability of the fitting – Processing of the fittings according DVS 2207-1 – Slip-on coupler with large insertion depth and SBR lip seal – Smooth material transition in the direction of flow through SDR 17–33 PE pipes <p><u>Available in the size</u></p> <p>d 160 / DN 150 d 225 / DN 200</p>		
14.0		<p>Transition piece</p> <p>material transition in domestic range between HD-PE pipes and PVC/PP (spigot end) pipes</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> – Corrosion resistant HD-PE component – HD-PE side can be fused with coupler, bends or with the outlet of the sewage saddle – PVC/PP side as socket coupler with SBR lip seal gasket and large insertion depth – Smooth material transition in the direction of flow through SDR 17–33 PE pipes <p><u>Available in the size</u></p> <p>d 160 / DN 150</p>		
15.0		<p>Transition piece</p> <p>material transition in domestic range between HD-PE pipes and stoneware pipes (spigot end)</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> – Corrosion resistant HD-PE component – HD-PE side can be fused with coupler, bends or with the outlet of the sewage saddle – Stoneware side as socket coupler with SBR lip seal gasket and large insertion depth – Smooth material transition in the direction of flow through SDR 17–33 PE pipes <p><u>Available in the size</u></p> <p>d 160 / DN 150</p>		

Item	Qty.	Text	UP	TP
16.0		<p>Fixation for absorbing axial thrust and tensile forces</p> <p>is used on PE pipes for the creation of fixed point, as a pull-out protection, assembly aid or fixation to pipe bearing.</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> – Corrosion resistant HD-PE component – Exposed, fixed heating coil without PE sheathing for optimal heat transfer to the pipe's fusion surface – Strength per fixed point up to 40 KN / 9000 lbf. – Multiple applications possible around the pipe circumference – Processing is carried out with standard tensioning belts (width 50mm and length approx. 3.5 x d pipe or longer for multiple applications) or with the clamping device, if the belt cannot be passed around the circumference of the pipe <p><u>Available in the size</u></p> <p>d 160 – d 1600</p>		

Item	Qty.	Text	UP	TP																														
17.0		<p>Sewage bends 15°, 30°, 45° and 90° (spigot fittings)</p> <p>HD-PE fitting for use with sewage sleeve</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> - Size PE 80 / PE 100 / SDR 17 - Installation without holding device - Bright internal surface for continuous component inspection with cameras - Max. testing pressure 0.5 bar in accordance to DIN EN 1610 <p>15°</p> <p><u>Available in the size</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">d 110</td> <td style="width: 50%;">d 180</td> </tr> <tr> <td>d 125</td> <td>d 225</td> </tr> <tr> <td>d 160</td> <td>d 355</td> </tr> </table> <p>30°</p> <p><u>Available in the size</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">d 110</td> <td style="width: 50%;">d 225</td> </tr> <tr> <td>d 125</td> <td>d 280</td> </tr> <tr> <td>d 160</td> <td>d 315</td> </tr> <tr> <td>d 180</td> <td>d 355</td> </tr> </table> <p>45°</p> <p><u>Available in the size</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">d 110</td> <td style="width: 50%;">d 225</td> </tr> <tr> <td>d 125</td> <td>d 250</td> </tr> <tr> <td>d 160</td> <td>d 280</td> </tr> <tr> <td>d 180</td> <td>d 315</td> </tr> <tr> <td>d 200</td> <td>d 355</td> </tr> </table> <p>90°</p> <p><u>Available in the size</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">d 160</td> <td style="width: 50%;"></td> </tr> <tr> <td>d 180</td> <td></td> </tr> <tr> <td>d 225</td> <td></td> </tr> </table>	d 110	d 180	d 125	d 225	d 160	d 355	d 110	d 225	d 125	d 280	d 160	d 315	d 180	d 355	d 110	d 225	d 125	d 250	d 160	d 280	d 180	d 315	d 200	d 355	d 160		d 180		d 225			
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d 160																																		
d 180																																		
d 225																																		

Item	Qty.	Text	UP	TP										
18.0		<p>Equal branch 45° (spigot fittings)</p> <p>HD-PE fitting for use with sewage sleeve</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> - Size PE 80 / PE 100 / SDR 17 - Installation without holding device - Bright internal surface for continuous component inspection with cameras - Max. testing pressure 0.5 bar in accordance to DIN EN 1610 <p><u>Available in the size</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">d 110</td> <td style="width: 50%;">d 225</td> </tr> <tr> <td>d 125</td> <td>d 250</td> </tr> <tr> <td>d 160</td> <td>d 280</td> </tr> <tr> <td>d 180</td> <td>d 315</td> </tr> <tr> <td>d 200</td> <td>d 355</td> </tr> </table>	d 110	d 225	d 125	d 250	d 160	d 280	d 180	d 315	d 200	d 355		
d 110	d 225													
d 125	d 250													
d 160	d 280													
d 180	d 315													
d 200	d 355													
19.0		<p>Unequal branch 45° (spigot fittings)</p> <p>HD-PE fitting for use with sewage sleeve</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> - Size PE 80 / PE 100 / SDR 17 - Installation without holding device - Bright internal surface for continuous component inspection with cameras - Max. testing pressure 0.5 bar in accordance to DIN EN 1610 <p><u>Available in the size</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">d 160 / 110</td> <td style="width: 50%;">d 315 / 225</td> </tr> <tr> <td>d 225 / 160</td> <td>d 355 / 160</td> </tr> <tr> <td>d 280 / 160</td> <td>d 355 / 225</td> </tr> <tr> <td>d 280 / 225</td> <td>d 450 / 160</td> </tr> <tr> <td>d 315 / 160</td> <td></td> </tr> </table>	d 160 / 110	d 315 / 225	d 225 / 160	d 355 / 160	d 280 / 160	d 355 / 225	d 280 / 225	d 450 / 160	d 315 / 160			
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d 225 / 160	d 355 / 160													
d 280 / 160	d 355 / 225													
d 280 / 225	d 450 / 160													
d 315 / 160														

Item	Qty.	Text	UP	TP
20.0		<p>Unequal branch 45° with eccentric outlet (spigot fittings) HD-PE fitting with eccentric outlet for use with sewage sleeve</p> <p><u>Attributes</u> – Size PE 80 / PE 100 / SDR 17 – Installation without holding device – Bright internal surface for continuous component inspection with cameras – Max. testing pressure 0.5 bar in accordance to DIN EN 1610 – When ordering, name the required outlet side (right/left) in flow direction</p> <p><u>Available in the size</u></p> <p>d 315 / 160 d 450 / 225 d 315 / 225 d 560 / 160 d 355 / 160 d 560 / 225 d 355 / 225 d 630 / 160 d 450 / 160 d 630 / 225</p>		
21.0		<p>Unequal branch 90° with eccentric outlet (spigot fittings) HD-PE fitting with eccentric outlet for use with sewage sleeve</p> <p><u>Attributes</u> – Size PE 80 / PE 100 / SDR 17 – Installation without holding device – Bright internal surface for continuous component inspection with cameras – Max. testing pressure 0.5 bar in accordance to DIN EN 1610</p> <p><u>Available in the size</u></p> <p>d 315 / 160 d 450 / 225 d 315 / 225 d 560 / 160 d 355 / 160 d 560 / 225 d 355 / 225 d 630 / 160 d 450 / 160 d 630 / 225</p>		

Item	Qty.	Text	UP	TP
22.0		<p>Sewage end cap (spigot fittings)</p> <p>HD-PE fitting for use with sewage sleeve</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> - Size PE 80 / PE 100 / SDR 17 - Installation without holding device - Max. testing pressure 0.5 bar in accordance to DIN EN 1610 <p><u>Available in the size</u></p> <p>d 110 d 160 d 125 d 225</p>		
23.0		<p>Reducers eccentric (spigot fittings)</p> <p>HD-PE fitting for use with sewage sleeve</p> <p><u>Attributes</u></p> <ul style="list-style-type: none"> - Size PE 80 / PE 100 / SDR 17 - Installation without holding device - Bright internal surface for continuous component inspection with cameras - Max. testing pressure 0.5 bar in accordance to DIN EN 1610 <p><u>Available in the size</u></p> <p>d 110 / 125 d 160 / 225 d 110 / 160 d 225 / 280</p>		