



Innovative Pipe Connections

Connect all manner of pipes quickly
and efficiently using the inside surface



Inside/Outside-Adaptor

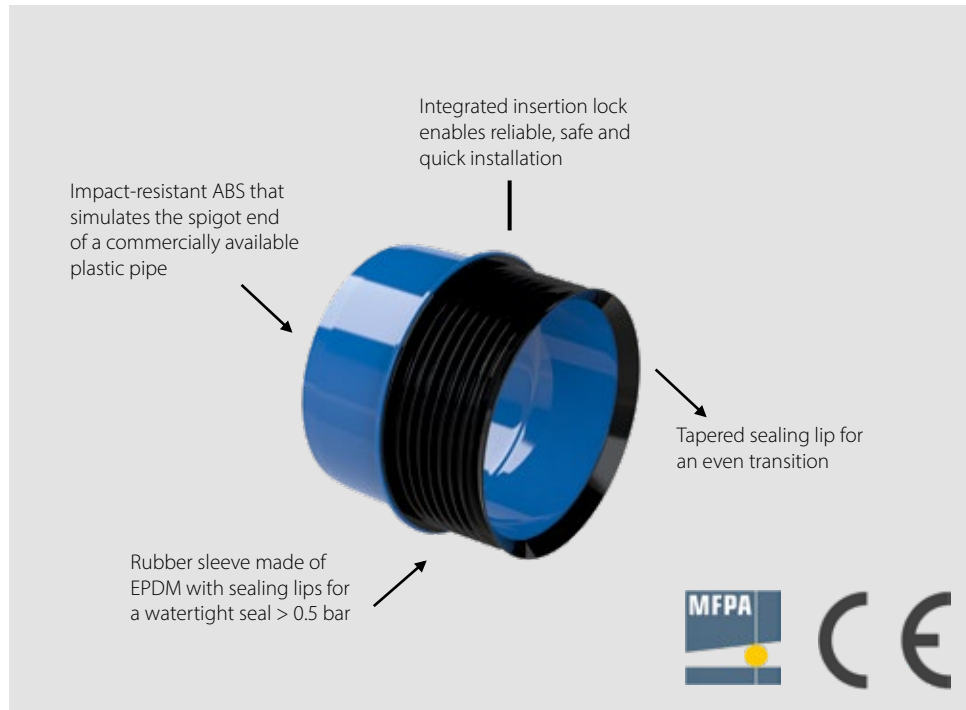
The Fernco Inside/Outside-Adaptor reliably connects all pipes with a circular inner surface, such as concrete pipes with a base, apex-reinforced pipes or wall ducts.

On one side, the adaptor consists of an inner sleeve made of impact-resistant ABS with a lip seal, which is inserted into a defined pipe or drill hole.

On the other side, the ABS molded part simulates the spigot end of a commercially available plastic pipe.

Advantages of the Inside/Outside-Adaptor

- Simple plug-in connection - no tools required
- Simple installation - within a few minutes
- Shear load resistant
- No cleaning of the outer pipe surface necessary



Application examples:

Existing pipe

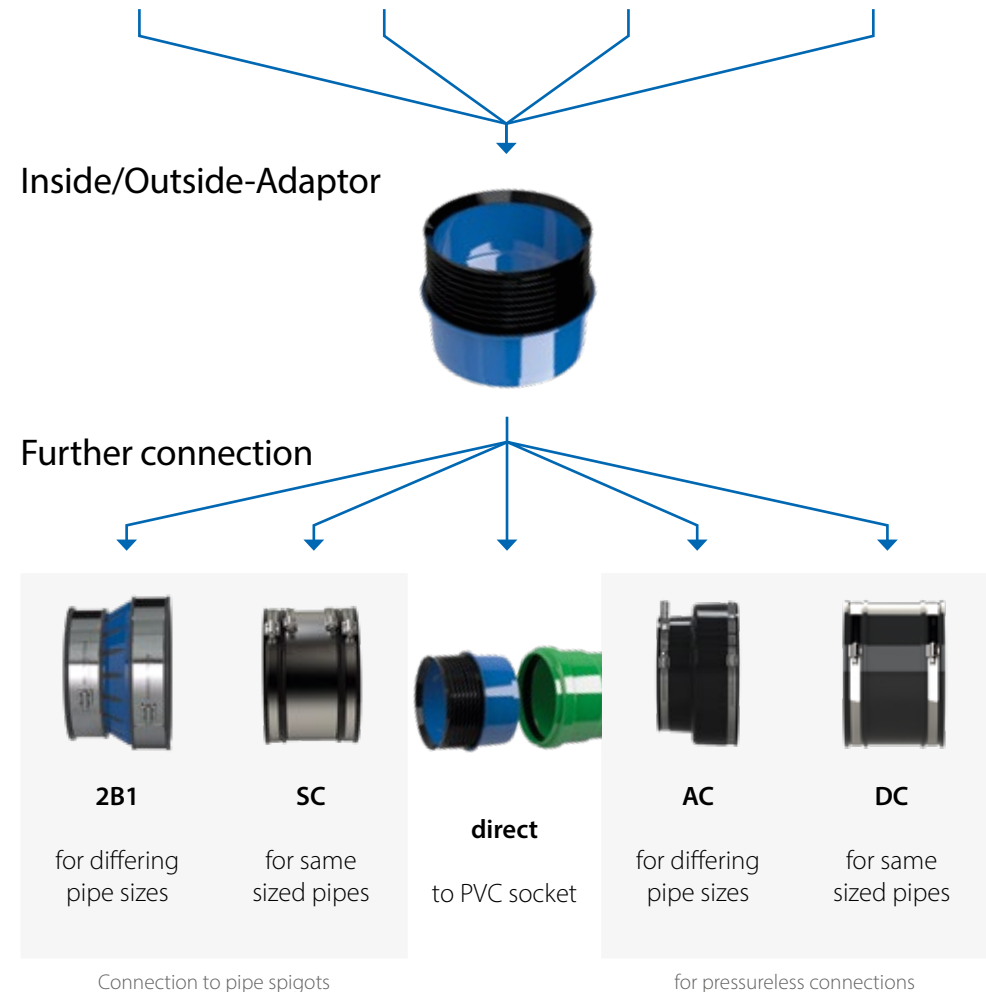


flat bottomed concrete pipes

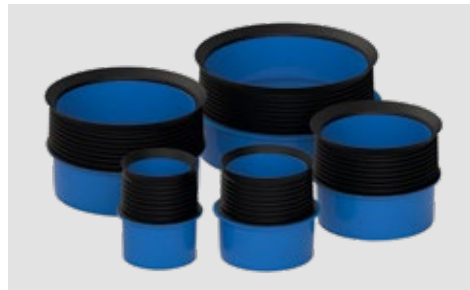
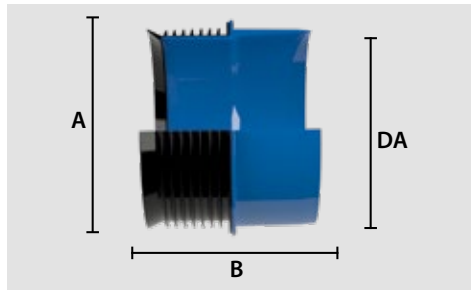
flush cut pipe

pipes with irregular surface

pipes with damaged surface



Overview



Product Code	Size DN	Inside Diameter ID (mm)	Outside Diameter OD(mm)	Width – B (mm)	Ext. Dim. – A (mm)
IA100	100	99 – 104,5	110	125	130
IA125	125	123 – 127	125	170	145
IA150	150	147,5 – 153	160	170	180
IA200	200	198 – 202	200	175	220
IA225-250*	225 / 250	220 – 225	250	185	270
IA250	250	248 – 252	250	175	270
IA300	300	298 – 302	315	200	333
IA400	400	396 – 402	400	317	422

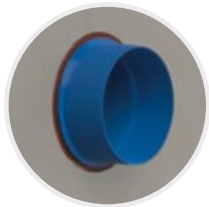
* transition

Easy installation



1

If necessary, remove deposits and clean the inside of the pipe. Apply some lubricant to the inside of the pipe / bore.



2

Push the IA adapter all the way into the stop into the pipe / bore.



3a

Push the sleeve of the PVCu pipe onto the other side of the adapter.

or



3b

When installing the IA adapter in conjunction with a coupling, the reverse side of the adapter is used as a smooth pipe end.









Make sure that the tapered end of the rubber sleeve does not fold over when inserting it into the pipe.

DN 100 Examples of use

	Drill hole size or pipe inside diameter	Included Fernco Product	Connection to: OD (mm)	Connection to: pipe	shear stability	Product Code
	99 – 103	none	–	PVCu 110 socket	✓	IA100
	99 – 103	PVCu double socket	–	PVCu 110 spigot end	✓	IA100 DM
	99 – 103	AC1155	75 – 90	*plastic 90 *Cast Iron DN 80	-	IA100AC1155
	99 – 103	2B1-100	120 – 133	Vitrified Clay DN 100 *PVCu 125 *Cast Iron DN 125	✓	IA100B1100
	99 – 103	DC125	110 – 125	PVCu 110 Cast Iron DN 100 Ductile Iron DN 100 GRP DN 100	-	IA100DC125
	99 – 103	SC120	110 – 121	PVCu 110 Cast Iron DN 100 Ductile Iron DN 100 GRP DN 100	✓	IA100SC120
	99 – 103	AC1362	121 – 136	Concrete DN 100 *Ductile Iron DN 125 Vitrified Clay DN 100	-	IA100AC1362









*: these connections require an irregular size difference

DN 125 Examples of use

	Drill hole size or pipe inside diameter	Included Fernco Product	Connection to: OD (mm)	Connection to: pipe	shear stability	Product Code
	123 – 128	none	–	PVCu / PVCu 2000 DN 125 socket	✓	IA125
	123 – 128	PVCu double socket	–	PVCu / PVCu 2000 DN 125 spigot end	✓	IA125DM
	123 – 128	AC4000	110 – 121	PVCu / PVCu 2000 DN 100* Cast Iron DN 100* Ductile Iron DN 100* GRP DN 100*	–	IA125AC4000
	123 – 128	2B1-100	108 – 133	PVCu / PVCu 2000 DN 100* PVCu / PVCu 2000 DN 125 Vitrified Clay DN 100* Cast Iron DN 100* Ductile Iron DN 100* GRP DN 100*	✓	IA1252B1100
	123 – 128	DC135	120 – 135	Vitrified Clay DN 100* PVCu / PVCu 2000 DN 125 Cast Iron DN 125	–	IA125DC135
	123 – 128	SC137	120 – 137	Vitrified Clay DN 100* PVCu / PVCu 2000 DN 125 Cast Iron DN 125	✓	IA125SC137
	123 – 128	2B1-125	123 – 161	Vitrified Clay DN 125 Cast Iron DN 125 Ductile Iron DN 125 GRP DN 125 Concrete DN 100*	✓	IA1252B1125
	123 – 128	AC1603	144 – 160	Vitrified Clay DN 125 Concrete DN 100* PVCu / PVCu 2000 DN 150* Cast Iron DN 150* Ductile Iron DN 125	–	IA125AC1603

*: These connections require an irregular size difference

DN 150 Examples of use

	Drill hole size or pipe inside diameter	Included Fernco Product	Connection to: OD (mm)	Connection to: pipe	shear stability	Product Code
	148 – 153	none	–	PVCu / PVCu 2000 DN 150 socket	✓	IA150
	148 – 153	PVCu double socket	–	PVCu / PVCu 2000 DN 150 spigot end	✓	IA150DM
	148 – 153	AC1702	110 – 125	PVCu / PVCu 2000 DN 100* Cast Iron DN 100* Ductile Iron DN 100* GRP DN 100* PVCu / PVCu 2000 DN 125*	–	IA150AC1702
	148 – 153	AC1703	130 – 145	Vitrified Clay DN 100* Cast Iron DN 125* Ductile Iron DN 125* GRP DN 125*	–	IA150AC1703
	148 – 153	SC165	150 – 165	Vitrified Clay DN 125* PVCu / PVCu 2000 DN 150 Cast Iron DN 150	✓	IA150SC165
	148 – 153	DC165	150 – 165	Vitrified Clay DN 125* PVCu / PVCu 2000 DN 150 Cast Iron DN 150	–	IA150DC165
	148 – 153	2B1-150	160 – 196	Vitrified Clay DN 150	✓	IA1502B1150
	148 – 153	AC2001	180 – 200	Vitrified Clay DN 150 PVCu / PVCu 2000 DN 200*	–	IA150AC2001

*: These connections require an irregular size difference

DN 200 Examples of use

	Drill hole size or pipe inside diameter	Included Fernco Product	Connection to: OD (mm)	Connection to: pipe	shear stability	Product Code
	198 – 202	none	–	PVCu / PVCu 2000 DN 200 socket	✓	IA200
	198 – 202	PVCu double socket	–	PVCu / PVCu 2000 DN 200 spigot end	✓	IA200DM
	198 – 202	AC2154	150 – 165	Vitrified Clay DN 125* PVCu / PVCu 2000 DN 150* Cast Iron / BML DN 150*	–	IA200AC2154
	198 – 202	AC2254	160 – 175	Ductile Iron DN 150* GRP DN 150*	–	IA200AC2254
	198 – 202	2B1-200S	175 – 226	Vitrified Clay DN 150* Concrete DN 150* PVCu / PVCu 2000 DN 200 Cast Iron DN 200 Ductile Iron DN 200 GRP DN 200	✓	IA2002B1200S
	198 – 202	SC215	190 – 215	Concrete DN 150* PVCu / PVCu 2000 DN 200 Cast Iron DN 200	✓	IA200SC215
	198 – 202	DC215	200 – 215	PVCu / PVCu 2000 DN 200 Cast Iron DN 200	–	IA200DC215
	198 – 202	SC225	200 – 225	PVCu / PVCu 2000 DN 200 Cast Iron DN 200	✓	IA200SC225
	198 – 202	AC2656	240 – 265	Vitrified Clay DN 200N Vitrified Clay DN 200H PVCu / PVCu 2000 DN 250*	–	IA200AC2656





*: these connections require an irregular size difference

DN 250 Examples of use

	Drill hole size or pipe inside diameter	Included Fernco Product	Connection to: OD (mm)	Connection to: pipe	shear stability	Product Code
	248 – 252	none	–	PVCu / PVCu 2000 DN 250 socket	✓	IA250
	248 – 252	PVCu double socket	–	PVCu / PVCu 2000 DN 250 spigot end	✓	IA250DM
	248 – 252	AC2654	144 – 160	Vitrified Clay DN 125* PVCu / PVCu 2000 DN 150* Cast Iron DN 150*	–	IA250AC2654
	248 – 252	AC2655	170 – 192	Vitrified Clay DN 150* Ductile Iron DN 150* Structured Pipe DN 150*	–	IA250AC2655
	248 – 252	AC2656	190 – 215	PVCu / PVCu 2000 DN 200* Cast Iron DN 200*	–	IA250AC2656
	248 – 252	AC2908	265 – 290	Cast Iron DN 250 Ductile Iron DN 250 GRP DN 250	–	IA250AC2908
	248 – 252	AC3208	295 – 320	Vitrified Clay DN 250N PVCu / PVCu 2000 DN 300*	–	IA250AC3208
	248 – 252	AC3608	335 – 360	Vitrified Clay DN 300N* PVCu / PVCu 2000 DN 350*	–	IA250AC3608
	248 – 252	AC3858	360 – 385	Vitrified Clay DN 300H* Ductile Iron DN 350* GRP DN 350*	–	IA250AC3858
	248 – 252	AC4208	395 – 420	Vitrified Clay DN 350N* PVCu / PVCu 2000 DN 400*	–	IA250AC4208
	248 – 252	SC250	225 – 250	Vitrified Clay DN 200N* PVCu / PVCu 2000 DN 250	✓	IA250SC250
	248 – 252	SC265	240 – 265	Vitrified Clay DN 200H*	✓	IA250SC265
	248 – 252	2B1-220	215 – 261	Vitrified Clay DN 200N* PVCu / PVCu 2000 DN 250 Concrete DN 200*	✓	IA2502B1220

*: these connections require an irregular size difference

DN 300 Examples of use

	Drill hole size or pipe inside diameter	Included Fernco Product	Connection to: OD (mm)	Connection to: pipe	shear stability	Product Code
	298 – 302	none	–	PVCu / PVCu 2000 DN 300 socket	✓	IA300
	298 – 302	PVCu double socket	–	PVCu / PVCu 2000 DN 300 spigot end	✓	IA300DM
	298 – 302	ACOS3351 off-center variant	180 – 205	PVCu / PVCu 2000 DN 200* Concrete DN 150* <i>equal bottomed connection</i>	–	IA300ACOS3351
	298 – 302	AC3207	210 – 235	Cast Iron DN 200* Ductile Iron DN 200* GRP DN 200* Eternit DN 200*	–	IA300AC3207
	298 – 302	AC3208	240 – 265	Vitrified Clay DN 200N* Vitrified Clay DN 200H* PVCu / PVCu 2000 DN 250*	–	IA300AC3208
	298 – 302	SC335	305 – 335	PVCu / PVCu 2000 DN 300* Cast Iron DN 300 Ductile Iron DN 300 GRP DN 300 Concrete DN 250*	✓	IA300SC335
	298 – 302	2B1-360	310 – 360	Vitrified Clay DN 300N Cast Iron DN 300 Ductile Iron DN 300 GRP DN 300 Concrete DN 250*	✓	IA3002B1360
	298 – 302	AC3600	335 – 360	Vitrified Clay DN 300N PVCu DN 350*	–	IA300AC3600
	298 – 302	2B1-390L	355 – 390	Vitrified Clay DN 300H Concrete DN 300 (alt)	✓	IA3002B1390L

*: These connections require an irregular size difference

Learn more at our YouTube channel:

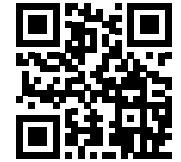
www.youtube.com/@FerncoGmbH



Installation video Pushfit
youtu.be/GEj1GhkPpsY



Installation video IA
youtu.be/4KsauO2zN1c



Installation video ICON
youtu.be/Gv-WhauKMml



Pushfit connector

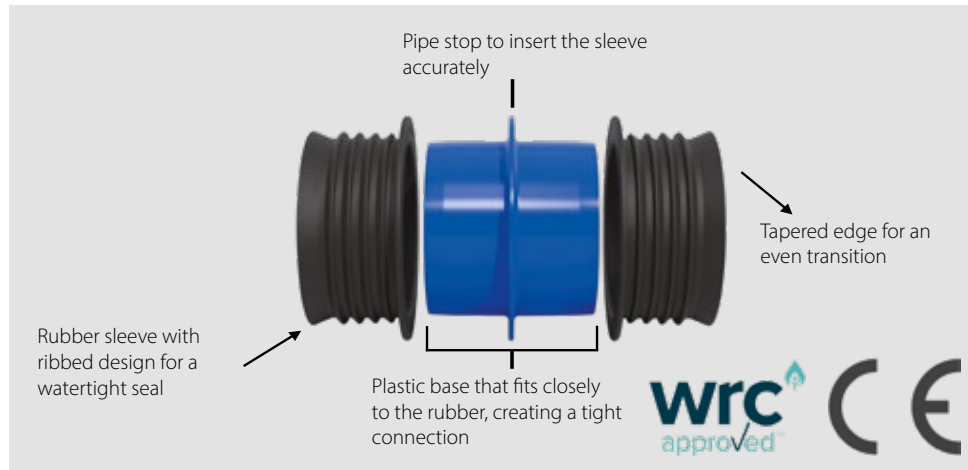
The Pushfit connector connects pipes with different outer diameters via the inner surface of the pipe.

The internal coupling connects e.g. plastic, cast iron and steel pipes with different outer diameters via the inner surface of the pipe if a normal coupling cannot be used for a variety of reasons.

The Pushfit connector for small pipe diameters extends the Fernco range of the ICON series.

Advantages of the Pushfit connector

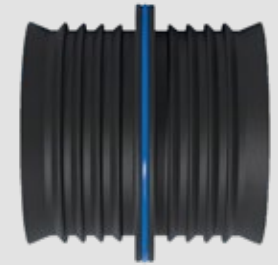
- Simple plug-in connection - no tools required
- Can be quickly removed and reused
- Connects all pipes with the same inside diameter
- Connects pipes with different outer diameters and/or damaged outer pipe surfaces
- No cleaning of the outer pipe surfaces required
- The integrated insertion lock enables reliable, safe and fast installation
- Pressure-tight up to 2.5 bar
- Temperature resistance in continuous operation: 80 °C
- Short-term temperature resistance up to 105 °C



Overview

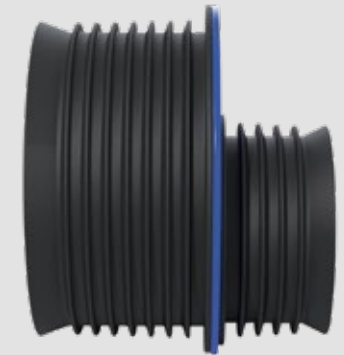
Same inside diameter

- DN 100 – ICP95
- DN 100 – ICP100
- DN 150 – ICP150



Size reduction – same level

- DN 100 – ICP95-100
- DN 100/150 – ICP95-150
- DN 100/150 – ICP100-150
- DN 150/200 – ICP150-200



Pushfit connector

Same inside diameter

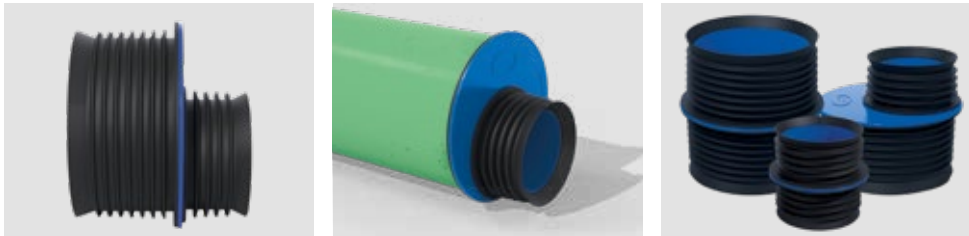
Product Code	Size DN	Inside diameter (mm)	Width – B (mm)	Outside diameter – A (mm)	Net Weight (kg)
ICP95	100	93 – 98	110	120	0.2
ICP100	100	99 – 104.5	110	120	0.2
ICP150	150	147.5 – 153	171	172	0.7



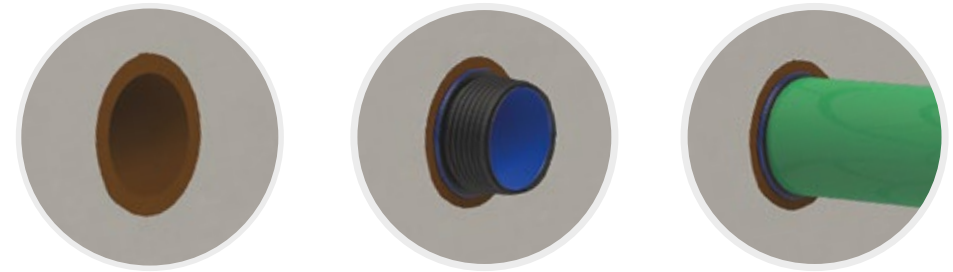
Size reduction – same level

Product Code	Size DN	Inside diameter (mm)	Width – B (mm)	Outside diameter – A (mm)	Net Weight (kg)
ICP95-100	100	93 – 98 / 99 – 103	110	120	0.5
ICP95-150	100/150	93 – 98 / 147.5 – 153	141	172	0.5
ICP100-150	100/150	99 – 103 / 147.5 – 153	141	172	0.5
ICP150-200	150/200	147.5 – 153 / 198 – 202	176	223	0.9

off-center / equal bottomed



Easy Installation



1. If necessary, remove deposits and clean the inside of the pipe. Apply lubricant to the inside of the of the pipe / bore.
2. Insert the Pushfit all the way into the pipe / bore.
3. Slide the second pipe over the other side of the Pushfit.

Make sure that the tapered end of the rubber sleeve does not fold over when inserting it into the pipe.

Application example ICP95-100

For rainwater downspouts with an internal diameter of 95 mm for connection to PVCu, vitrified clay, Cast Iron or other pipe types with an internal diameter of 100 mm.



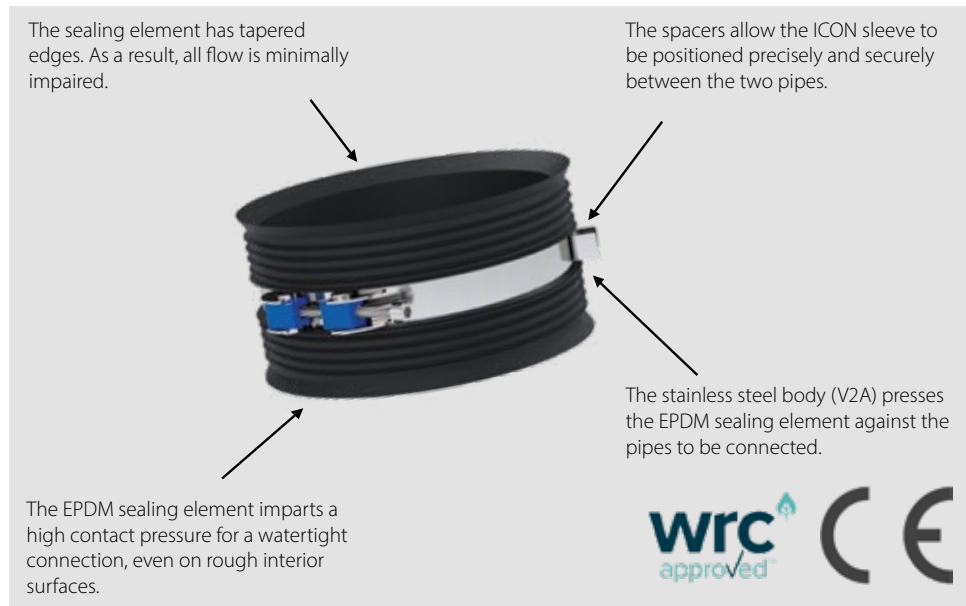
ICON internal coupling for pipes from DN 150

A unique connector that securely seals the inner walls of two pipes and is fastened from the outside!

In conjunction with a special clamping mechanism, the EPDM profile provides a watertight and airtight seal for wastewater pipes from DN 150 to DN 600.

Advantages of the ICON internal coupling

- Apart from the connector, no other materials or special tools are required.
- The ICON complies with the requirements of DIN EN 295-4!
- The connection is permanently tight. No softening or contamination of the soil by waste water!
- Due to the long service life, there are no additional costs for monitoring and maintenance.
- Pressure-tight up to 0.5 bar
- **To connect PVCu pipes with nominal diameters of DN 200, DN 250, DN 400 and DN 500, an additional slide on - connector is required. This is the only way to safely bridge the internal diameter differences!**



The problem ...

In the past, it was not possible to connect the following waste water pipes securely and permanently using a coupling.



Concrete pipes with a base



Structured pipes



Pipes with a damaged surface



Flush cut pipes



Pipes partially or completely embedded in concrete

The solution ...

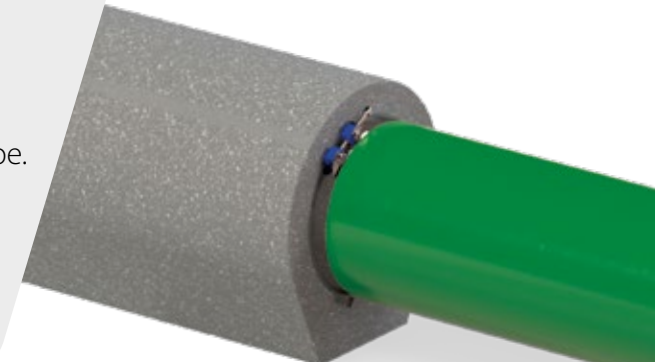
These problems are solved with the Fernco ICON coupling:

A unique coupling that seals securely to the inner walls of two pipes and is fastened from the outside! In conjunction with the special clamping mechanism, the EPDM profile seals wastewater pipes from DN 150 to DN 600 watertight and airtight.

Our technical development team has succeeded in creating an innovation in pipe connection technology with this coupling!

ICON Manschette

A permanent and secure connection between a DN 300 PVCu pipe and a DN 300 concrete base pipe. The performance of this connection can only be achieved with the Fernco ICON coupling.



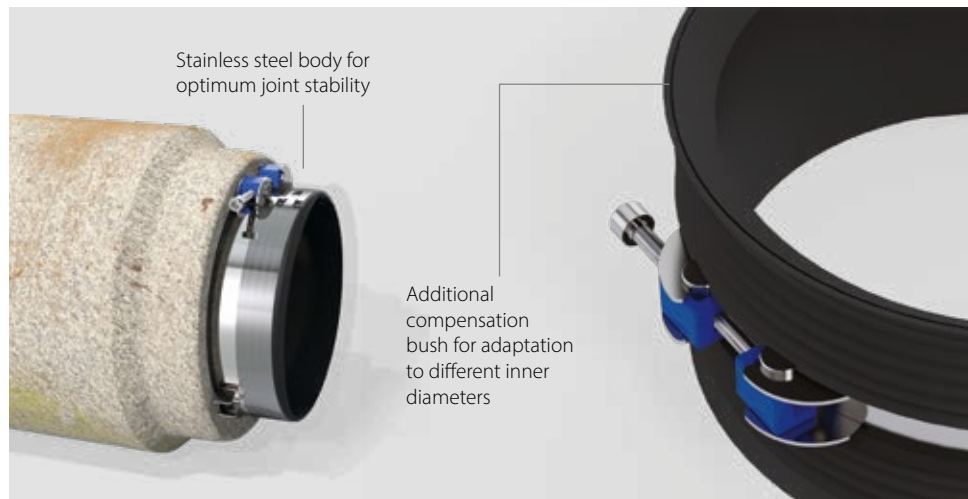
Technical data

- For connecting pipes of nominal widths DN 150 to DN 600
- Total width of the coupling: 130 mm
- Stainless steel components made of V2A (1.4301)
- Sizes DN 150 to DN 300 are equipped with one clamping unit, all larger collars are equipped with two clamping units.
- The EPDM sealing element has tapered ends in order to have minimal impact on the flow behaviour.

Declaration of performance

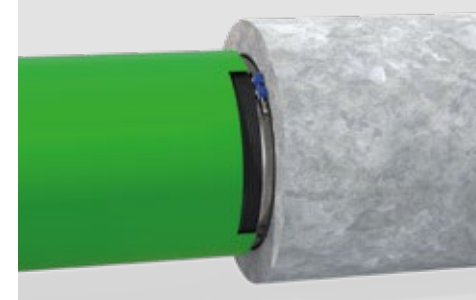
IMPORTANT:

- The coupling is only 9 mm thick, so it only reduces the inside diameter by 18 mm.
- Ensure that there is no significant damage to the inner surface of the pipe.
- The pipes to be joined must have a similar internal diameter. If there are larger differences, an additional bush must also be used.



Internal coupling ICON

Product Code	Size DN	Inside diameter (mm)	Torque (Nm)
IC150	150	149 – 153	15
IC200-184	200	184 – 188	15
IC200-188	200	188 – 192	15
IC200	200	198 – 202	15
IC200_S200-KG	200	198 – 202	15
IC200_S200-PP	200	198 – 202	15
IC250	250	248 – 252	15
IC250_S250-KG	250	248 – 252	15
IC250_S250-PP	250	248 – 252	15
IC300	300	299 – 303	15
IC300-294	300	294 – 297 / 299 – 302	15
IC400	400	398 – 402	15
IC400_S400-PP	400	398 – 402	15
IC500	500	498 – 502	15
IC600	600	598 – 602	15



Easy Installation



1

Ensure that the surface is intact and clean. Please use lubricant for concrete pipes.



2

Place the ICON in front of the existing pipe. The clamping unit(s) should be easily accessible.



3

Push the coupling into the pipe until the clamping unit(s) and the spacers are in contact with the pipe.



4

Now push the second pipe onto the seal until it lies cleanly against the clamping unit(s) and spacers.



5

Tighten the M10 Allen screw(s) to the required torque - see product label.



The connection is finished!

Comparison of the internal couplings



	Inside outside adapter	Pushfit	ICON
Description	For direct connection to PVCu pipes and for use as spigot end	Quick installation without tools	For installation of pipes from DN 150
Variants		For pipes with the same inside diameter As a reducer same level	For pipes with the same inside diameter Includes extra bush for slightly different inside diameters
Nominal diameter	DN 100 – 300	DN 100 – 150	DN 150 – 600
Width	Depending on size 125 – 210 mm	Depending on size 110 – 171 mm	130 mm
Pipe type	Suitable for all pipe types	Suitable for all pipe types	Suitable for all pipe types
Material	Impact-resistant ABS Rubber sleeve made of EPDM	Impact-resistant ABS Rubber sleeve made of EPDM	Stainless steel components made of V2A (1.4031) Sealing element made of EPDM
Pressure rating	1.0 bar	2.5 bar	0.5 bar
Application	inside – outside	inside – inside	inside – inside

Our certifications



A WRc Approved™ range

The WRc Approved™ program is a recognized and established certification system in the construction industry. It provides assurance to suppliers, buyers and end users that products meet standards and are fit for purpose.

The program reduces the risks of procurement by ensuring that quality, performance and installation processes have been tested to the most stringent requirements and in accordance with BS EN 295. Fernco offers a range of reliable pipe jointing and lateral connection products that are WRc approved.



MFPA Leipzig GmbH

MFPA certifications guarantee impartial and independent testing, monitoring, certification and assessment of building materials, building products, components and much more. With MFPA certification, we rely on the latest scientific findings and offer you the highest level of quality and safety.



CE marking

With the CE marking, the manufacturer declares that to be aware of all currently applicable directives for the product (in particular the applicable EU directives) and that the product complies with them. The manufacturer also assumes responsibility for the conformity of the product. The CE marking thus confirms full compliance with the essential (safety) requirements stipulated in EU directives.

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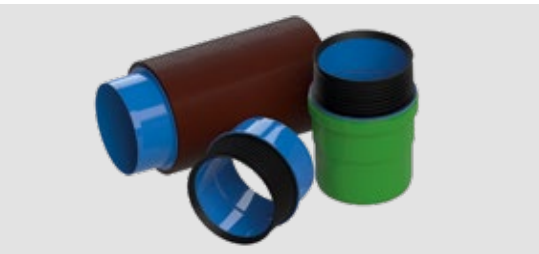
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As of: 12/2025



Webpage:
www.fernco.de/en/internal-couplings

Reliable connections –
worldwide!



Your direct connection to us ...



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