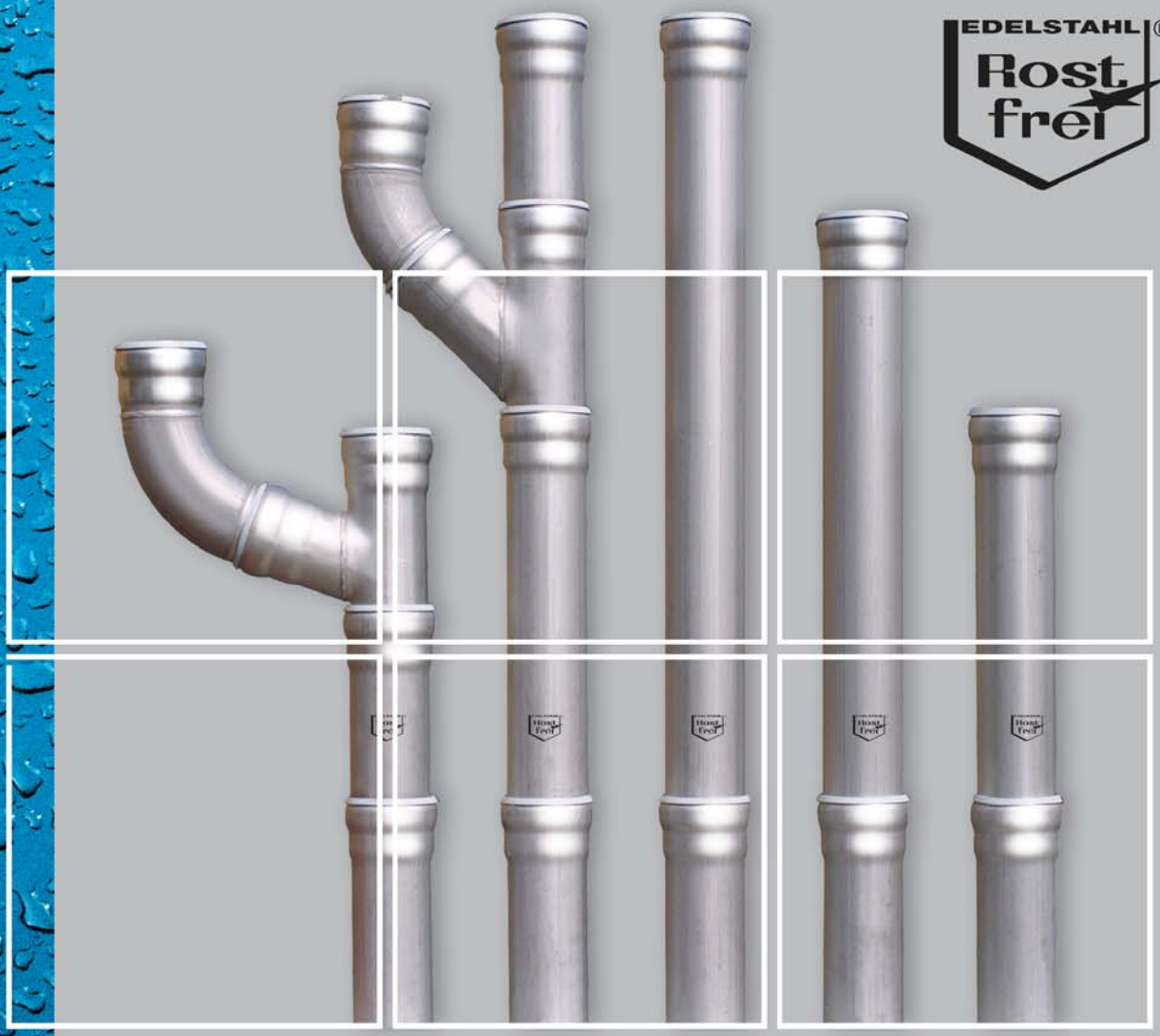
LORO-XCL Stainless Steel

LORO-XCL STAINLESS STEEL

DN 40 - DN 150
acoording to EN 1124-1 and EN 1124-3
Material No. 1.4301 (AISI 304) and 1.4404 (AISI 316 L)



EDELSTAHL Rostfrei®

LORO®

LORO-X
The drainage system for the entire house

Content

LOROWERK
K.H. Vahlbrauk GmbH & Co. KG
Kriegerweg 1 • 37581 Bad Gandersheim
Postfach 13 80 • 37577 Bad Gandersheim
Tel. +49 (0) 53 82.710 • Telefax +49 (0) 53 82.712 03
Internet: www.loro.de • e-mail: infocenter@lorowerk.de

Technical status: August 2007. Subject to technical alterations.

LORO-XCL STAINLESS STEEL PIPES and fittings DN 40 - DN 150 according to DIN EN 1124-1 and EN 1124-3

- **for waste water**
- **for exhaust gas**
- **for exhaust air**

Fields of application:

More and more aggressive media that need to be disposed of are genereted in industry and buisness, in large-scale catering establishements and research institutions as well as in public facilities.
The piping used for this purpose is subjected to different kinds of mechanical, chemical and thermal stress. Conventional pipes do not meet these requirements at all or only to a limited extent.

The LORO- XCL STAINLESS STEEL PIPES
with ther proven socket connections are supplied with various sealing elements for different stress patterns and are made of stainless steel under material number 1.4301 (AISI 304) as standard or 1.4404 (AISI 316L)

Apart from being corrosion-proof, the LORO-XCL STAINLESS STEEL PIPES offer the numerous and proven properties of steel and are

- shock and impact resistant
- non-flammable
- light in weight
- heat and cold-resistant

The LORO-XCL connecting socket requires

- no welding - just inserting
- Quick installation

System summary

	LORO-XCL Stainless Steel	DN	40	50	70	80	100	125	150
	Pipe with one socket		●	●	●	●	●	●	●
	Branches		●	●	●	●	●	●	●
	Reducing branches		●	●	●	●	●	●	●
	Bends		●	●	●	●	●	●	●
	Angle bends		●	●	●	●	●	–	–
	Bends with short radius		–	●	●	●	●	–	–
	Cleaning pipes		–	●	●	●	●	●	●
	Double sockets		●	●	●	●	●	●	●
	Slip-in sockets		●	●	●	●	●	●	●
	Tranistion pipes		●	●	●	●	●	●	●
	Connectors to other pipe types		–	●	●	●	●	●	●
	Closing plugs		●	●	●	●	●	●	●
	Sealing elements		●	●	●	●	●	●	●
	Anchor clips		●	●	●	●	●	●	●
	Pipe clips		–	●	●	●	●	●	●

DN 200 available on request

Technical data

Piping
The pipes are welded according to DIN 2643, and made of austenitic corrosio-proof steel according to DIN 17440.
Available types:
-Matrial No. 1.4301 (AISI 304)
= Standard.
short description X 5 CrNi 18 10
-Matrial No. 1.4404 (AISI 316L)
= heavy duty
short description X 2 CrNiMo17 13 2
For manufacturing reasons, some fittings are only available in higher material quality AISI 316L (1.4404) or AISI 316 Ti (1.4571). Short name: X 10 CrNiMoTi 1810

Standard finish: thermally stress-relieved, pickled
Customized : Surface polished for extra charge

Corrosion resistance
Corrosion-proof types of steel are made of base iron. The austenitic chromium-nickel steel is resistant against a large number of chemical products and aggressive waste water polluted with detergents. This kind of steel has
therefore a wide range of applications in the chemical, grease, soap and food industries as well as in dairies, the beverage industry, in large scale catering and similar facilities. Where increased acid resistance and reduced susceptibility to crevice corrosion is demanded, the use of molybdenum-alloyed chromium-nickel steel is recommended. This kind of steel is resistant against a number of organic and inorganic acids, although to a limited extent only against reducin acids and- under certain conditions-chloric media..

Sealing elements
Available are sealing elements made of:
SB (SBR) Styrene-butadiene mixed polymer, trade name e.g. BUNA, DN 70 - DN 200
NB (NBR) Nitrile-butadiene rubber, trade name e.g. PERBUNAN N, DN 50 - DN 150.
EP (EPDM) a ethylene-propylene rubber, DN 40 - DN 150.
SI (VMQ) a methyl-vinyl rubber, DN 50- DN 150

Chemical composition and temperature of the waste water determine the choice of gasket type.

A table showing the resistance of the different types of gaskets against various chemicals is available upon request.

Fire resistance
LORO-XCL STAINLESS STEEL PIPES must be allocated to construction material class A1 - incombustible in accordance with DIN 4102 and are classified as incombustible in accordance with DIN 1986, Part 4
LORO-XCL STAINLESS STEEL Pipes have a high degree of temperature stability that comes along with a low expansion coefficient. The stretch of a 1 m piece of pipe amounts to 1.6mm at a temperature difference of 100°C.

Sound insulation
LORO-XC Stainless Steel discharge Pipes have favourable acoustic behaviour due to high specific weight of steel. Comparable scientific investigations confirm that LORO-XCL stainless Steel pipes have low-noise acoustic behaviour. The requirements of DIN 4109 are met if the pipes are assembled professionally. Experts reports on acoustics are available upon request.

Tightness Values
The tightnes values of the LORO-XCL slip in socket joint for all nominal bores exceed the requirements of EN 476 (internal and external gauge pressure 0 - 0.5 bar). For higher pressures, the socket joint can be anchored against axial force using the LORO-XCL anchor clip, No. 806C DN 40 - DN 125.

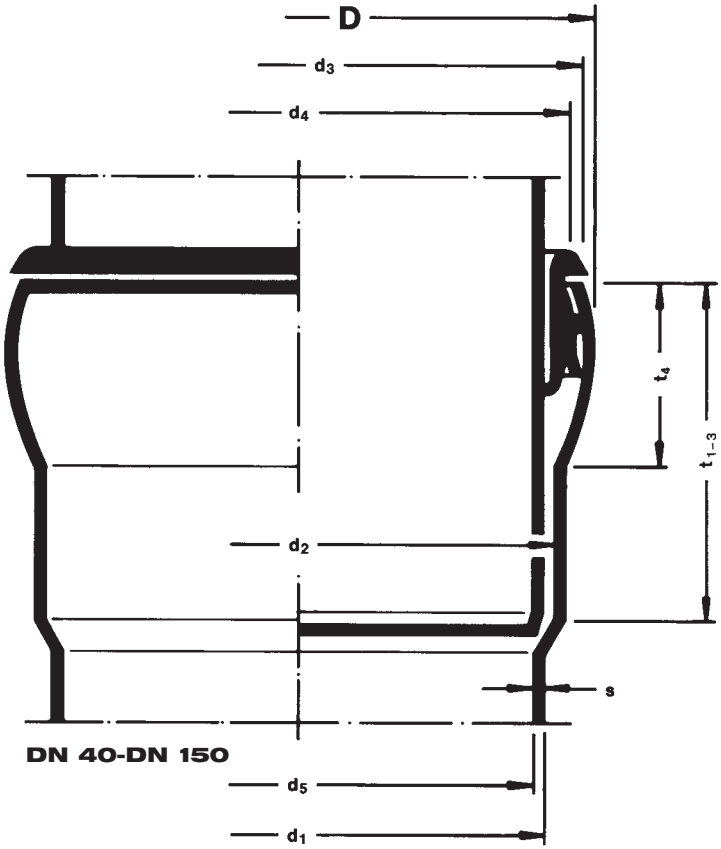
Supervision
LORO-XCL steel pipes are manufactured in accordance with DIN EN 1124-1, 3 and 4.
Manufacturing supervision for pipes and fittings is carried out by the Material Testing Office in Würzburg, part of the Bavarian Trade Institute.
Supervision for sealing elements is carried out by the Federal Material Testing Office
of North Rhine-Westphalia in Dortmund (external supervision).

CE

LORO MPA NRW

LORO DIN EN 1124 LGA

Dimensions and weights



Pipe and socket dimensions (in mm)*

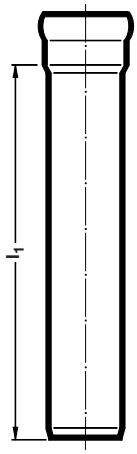
DN	D	d_1	d_2	d_3	d_4	d_5	s	t_1	t_2	t_3	t_4	F**
40	51,8	42	44,8	46,8	44,8	39	1,0	30	70	100	16	1256,6
50	61,8	53	55,8	57,8	55,8	51	1,0	38	90	130	19	2042,8
70	83,2	73	75,8	78,2	75,8	70,6	1,2	55	120	175	27	3914,0
80	101,1	88,9	91,7	94,1	91,7	86,5	1,2	60	130	190	31	5875,4
100	115,8	101,6	105,4	108,8	106,4	99,2	1,2	70	150	220	38	7727,4
125	149,8	133	137,8	142,8	139,8	130	1,5	75	160	235	41	13273,2
150	178,8	159	163,8	170,8	167,8	156	1,5	80	170	250	46	19113,4

* Subject to dimensional tolerances for Pipes and Fittings according to DIN EN 1124 part 2.
** F = Free cross-sectional (mm^2).
t_1 = normal socket
t_2, t_3 = long socket
t_4 = normal socket 1.step

Please note: The dimensions of pipes and fittings are equal for both materials. In the measurement and weight tables the item numbers for AISI 304 are shown starting with **4**. If you wish to order AISI 316L please replace the **4** by a **5**.

Example: 1000mm pipe DN 100 with one socket
Material No. 1.4301: Article No. 4.1201100C
Material No. 1.4404: Article No. 5.1201100C

Pipes and fittings of this table showing an item number starting with a **5** will only be manufactured in AISI 316L



Pipe with one Socket

l_1 = 250 mm		
Art.-No.	DN	kg
5.1401040C	40*	0,3
4.1401050C	50	0,4
4.1401070C	70	0,6
5.1401080C	80*	0,7
4.1401100C	100	1,0
4.1401125C	125	1,7
4.1401150C	150	2,9

l_1 = 500 mm		
Art.-No.	DN	kg
5.1301040C	40*	0,5
4.1301050C	50	0,7
4.1301070C	70	1,4
5.1301080C	80*	1,5
4.1301100C	100	1,8
4.1301125C	125	3,0
4.1301150C	150	4,2

l_1 = 1000 mm		
Art.-No.	DN	kg
5.1201040C	40*	1,0
4.1201050C	50	1,4
4.1201070C	70	2,6
5.1201080C	80*	2,8
4.1201100C	100	3,4
4.1201125C	125	5,6
4.1201150C	150	6,9

l_1 = 1500 mm		
Art.-No.	DN	kg
5.1111040C	40*	1,5
4.1111050C	50	2,1
4.1111070C	70	3,8
5.1111080C	80*	4,2
4.1111100C	100	5,0
4.1111125C	125	7,9
4.1111150C	150	9,8

l_1 = 2000 mm		
Art.-No.	DN	kg
5.1101040C	40*	1,9
4.1101050C	50	2,7
4.1101070C	70	5,0
5.1101080C	80*	5,4
4.1101100C	100	6,6
4.1101125C	125	10,9
4.1101150C	150	12,9

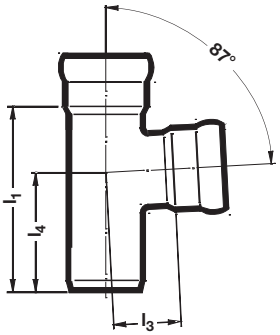
l_1 = 2750 mm		
Art.-No.	DN	kg
5.1005040C	40*	2,4
4.1005050C	50	3,5
4.1005070C	70	6,4
5.1005080C	80*	7,1
4.1005100C	100	8,2
4.1005125C	125	13,9
4.1005150C	150	16,9

l_1 = 3000 mm		
Art.-No.	DN	kg
5.1001040C	40*	2,8
4.1001050C	50	4,0
4.1001070C	70	7,4
5.1001080C	80*	8,1
4.1001100C	100	9,8
4.1001125C	125	15,4
4.1001150C	150	18,7

*** Only available in material No. 1.4404**

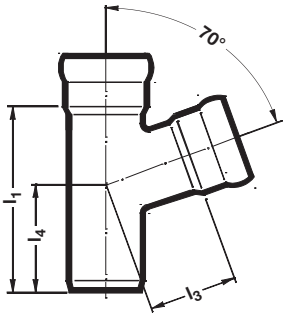
Please note: When placing orders involving material No. 1.4404, the digit **4** in front of the article No. must be replaced by a **5**

Branches 87°



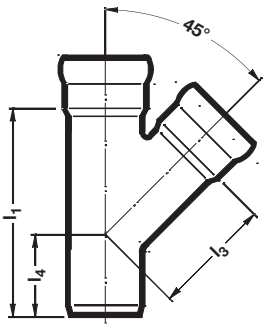
Art.-No.	DN	l_1	l_3	l_4	kg
5.200.AA0C	40/40*	110	40	70	0,2
4.200.BB0C	50/50	130	50	80	0,3
4.200.CC0C	70/70	175	65	110	0,8
5.200.MM0C	80/80*	205	78	135	1,1
4.200.DD0C	100/100	230	90	140	1,7
4.200.EE0C	125/125	285	120	170	3,2
4.200.FF0C	150/150	320	135	190	4,0

Branches 70°



Art.-No.	DN	l_1	l_3	l_4	kg
5.210.AA0C	40/40*	110	50	60	0,2
4.210.BB0C	50/50	130	60	70	0,3
4.210.CC0C	70/70	175	75	95	0,8
5.210.MM0C	80/80*	205	91	117	1,1
4.210DD0C	100/100	230	110	125	1,7
4.210.EE0C	125/125	285	145	150	3,2
4.210.FF0C	150/150	320	160	160	4,0

Branches 45°

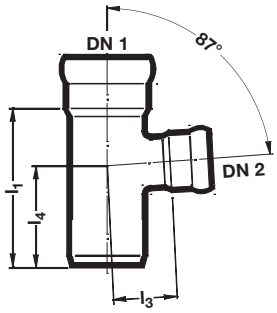


Art.-No.	DN	l_1	l_3	l_4	kg
5.220.AA0C	40/40*	125	70	55	0,2
4.220.BB0C	50/50	150	90	65	0,4
4.220.CC0C	70/70	200	115	85	0,9
5.220.MM0C	80/80*	235	138	97	1,4
4.220.DD0C	100/100	265	155	110	2,0
4.220.EE0C	125/125	340	210	130	3,9
4.220.FF0C	150/150	380	240	140	5,0

*** Only available in material No. 1.4404**

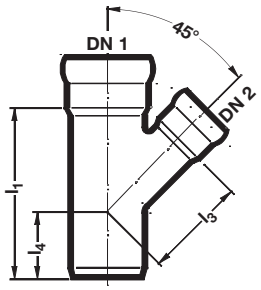
Please note: When placing orders involving material No. 1.4404, the digit **4** in front of the article No. must be replaced by a **5**

Reducing Branches 87°



Art.-No.	DN 1	DN 2	l_1	l_3	l_4	kg
5.230.BA0C	50*	40*	120	46	75	0,3
5.230.CA0C	70*	40*	140	57	95	0,5
4.230.CB0C	70	50	150	61	100	0,6
4.230.DB0C	100	50	180	76	115	1,0
4.230.DC0C	100	70	200	80	125	1,1
5.230.DM0C	100*	80*	210	85	135	1,1
4.230.ED0C	125	100	255	105	155	2,7
4.230.FD0C	150	100	255	119	155	3,1
4.230.FE0C	150	125	290	134	175	3,6

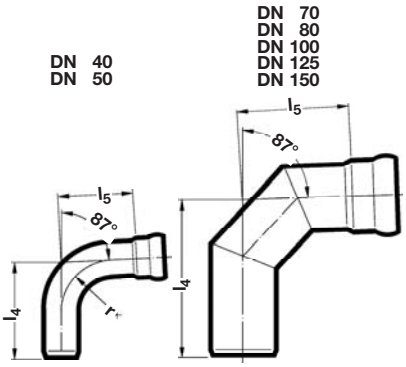
Reducing Branches 45°



Art.-No.	DN 1	DN 2	l_1	l_3	l_4	kg
5.250.BA0C	50*	40*	130	79	50	0,3
5.250.CA0C	70*	40*	150	95	60	0,4
4.250.CB0C	70	50	175	106	75	0,6
4.250.DB0C	100	50	200	127	75	0,9
4.250.DC0C	100	70	230	136	90	1,1
5.250.DM0C	100*	80*	250	146	100	1,4
4.250.ED0C	125	100	290	176	105	3,1
4.250.FD0C	150	100	290	195	95	3,6
4.250.FE0C	150	125	340	230	120	4,4

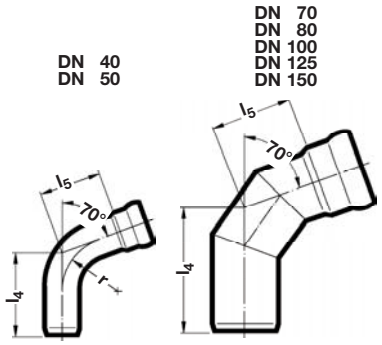
*** Only available in material No. 1.4404**

Please note: When placing orders involving material No. 1.4404, the digit **4** in front of the article No. must be replaced by a **5**



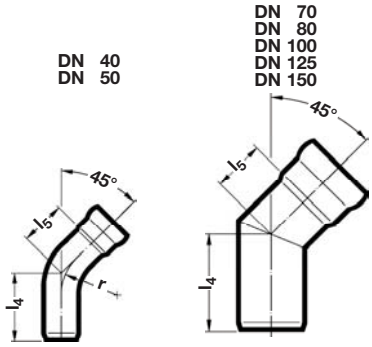
Bends 87°

Art.-No.	DN	r	l_4	l_5	kg
5.300.040C*	40	67,5	122	92	0,3
4.300.050C	50	82,5	148	120	0,4
4.300.070C	70**	-	185	146	0,7
5.300.080C*	80**	-	190	130	0,9
4.300.100C	100**	-	237	167	1,0
4.300.125C	125**	-	280	205	1,2
4.300.150C	150**	-	321	241	2,5



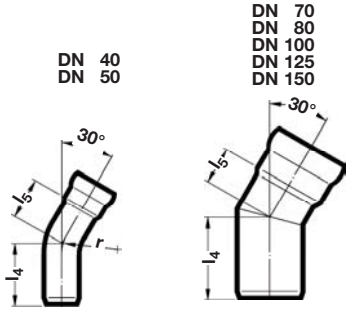
70°

Art.-No.	DN	r	l_4	l_5	kg
5.310.040C*	40	67,5	105	75	0,2
4.310.050C	50	82,5	128	100	0,3
4.310.070C	70**	-	157	118	0,6
4.310.080C	80**	-	155	95	0,8
4.310.100C	100**	-	191	121	1,1
4.310.125C	125**	-	226	151	2,3
4.310.150C	150**	-	257	177	3,0



45°

Art.-No.	DN	r	l_4	l_5	kg
5.320.040C*	40	67,5	86	56	0,1
4.320.050C	50	82,5	104	76	0,3
4.320.070C	70**	-	122	83	0,6
5.320.080C*	80**	-	122	62	0,8
4.320.100C	100**	-	148	78	1,0
4.320.125C	125**	-	175	100	1,8
4.320.150C	150**	-	195	115	2,3

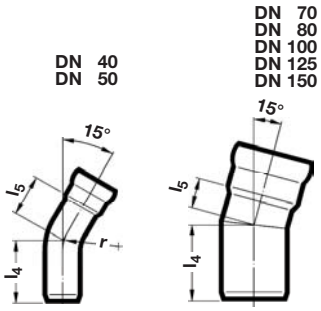


30°

Art.-No.	DN	r	l_4	l_5	kg
5.330.040C*	40	67,5	76	46	0,1
4.330.050C	50	82,5	92	64	0,2
4.330.070C	70**	-	105	66	0,5
5.330.080C*	80**	-	106	46	0,7
4.330.100C	100**	-	126	56	0,9
4.330.125C	125**	-	150	75	1,7
4.330.150C	150**	-	165	85	2,0

*** Only available in material No. 1.4404**
****In Segment Construction**

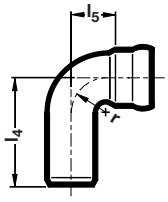
Please note: When placing orders involving material No. 1.4404, the digit **4** in front of the article No. must be replaced by a **5**



Bends 15°

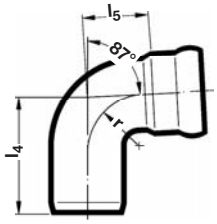
Art.-No.	DN	r	l_4	l_5	kg
5.340.040C*	40	67,5	67	37	0,1
4.340.050C	50	82,5	81	53	0,2
4.340.070C	70**	-	89	50	0,4
5.340.080C*	80**	-	100	40	0,7
4.340.100C	100**	-	115	45	0,8
4.340.125C	125**	-	116	45	1,4
4.340.150C	150**	-	125	45	1,8

**** In Segment Construction**



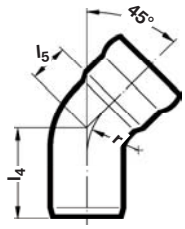
Angle Bends 90°

Art.-No.	DN	r	l_4	l_5	kg
5.500.040C*	40	26,0	80	45	0,2
4.500.050C	50	36,5	100	57	0,3
4.500.070C	70	50,0	123	63	0,6
5.500.080C*	80	60,0	140	75	0,8
4.500100C	100	70,0	165	90	1,1



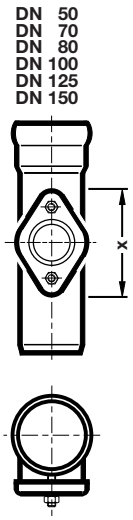
Bends with short Radius 87°*

Art.-No.	DN	r	l_4	l_5	kg
5.350.050C	50	36,5	98	55	0,3
5.350.070C	70	50,0	118	58	0,7
5.350.080C	80	60,0	137	72	0,8
5.350.100C*	100	70	161	91	1,1



Bends with short Radius 45°*

Art.-No.	DN	r	l_4	l_5	kg
5.352.050C	50	36,5	79	24,5	0,2
5.352.070C	70	50	91	33	0,6
5.352.080C	80	60	105	30	0,7
5.352.100C*	100	70	124	54	0,8



Cleaning pipes with circular clean-out opening***

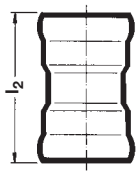
Art.-No.	DN	l_1	n	x	y	kg
5.550050C	50	150	95	85	15	0,3
5.550070C	70	200	125	100	15	0,8
5.550080C*	80	240	145	125	16	0,9
5.550100C	100	265	165	125	20	1,0
5.550125C	125	290	180	165	25	1,2
5.550150C	150	320	190	190	25	3,0

*** For pressures exceeding 0,5 bar as a special production on request.

*** Only available in material No. 1.4404**

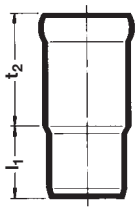
Please note: When placing orders involving material No. 1.4404, the digit **4** in front of the article No. must be replaced by a **5**

Double Sockets



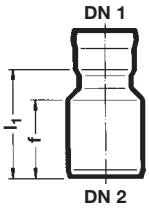
Art.-No.	DN	l_2	kg
5.560040C	40*	76	0,1
4.560050C	50	94	0,2
4.560070C	70	135	0,3
5.560080C	80*	145	0,4
4.560100C	100	180	0,6
4.560125C	125	190	1,1
4.560150C	150	200	1,4

Slip-in Sockets



Art.-No.	DN	l_1	t_2	kg
5.810040C	40*	50	70	0,1
5.810050C	50	60	90	0,2
5.810070C	70	70	130	0,4
5.810080C	80	80	130	0,7
5.810100C	100	90	150	1,0
5.810125C	125	100	160	1,5
5.810150C	150	115	170	1,9

Transition pipes (Conentric Reducers)*



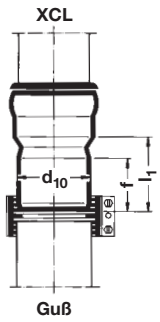
Art.-No.	DN 1	DN 2	l_1	f	kg
5.600AB0C	40	50	85	60	0,1
5.600BC0C	50	70	110	70	0,2
5.600BD0C	50	100	160	100	0,4
5.600CM0C	70	80	130	85	0,4
5.600CD0C	70	100	140	100	0,6
5.600MD0C	80	100	140	100	0,7
5.600DE0C	100	125	160	100	1,1
5.600DF0C	100	150	170	107	1,2
5.600EF0C	125	150	150	110	1,4

*** Only available in material No. 1.4404**

Please note: When placing orders involving material No. 1.4404, the digit **4** in front of the article No. must be replaced by a **5**

Connectors for LORO-XCL to different types of pipes (with socket or hubless)

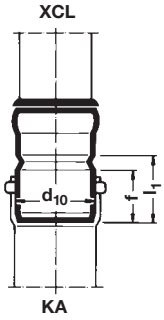
Connectors from LORO-XCL Pipe to Cast Iron Pipes (SML) Material No. 1.4404



Art.-No.	DN (XCL)	DN (SML)	l_1	f	d_{10}	kg
5.624.070C	70	80	60	40	83	0,6
5.625.080C	80	80	100	53	83	0,8
5.630.100C	100	100	110	80	110	0,9
5.600.DE0C	100	125	160	100	133	1,3
-	125	125	direct*			
5.600.EF0C	125	150	150	110	159	1,7
-	150	150	direct*			

* LORO-XCL Pipes DN 125 and DN 150 fits without Connectors direct in Cast Iron Pipes

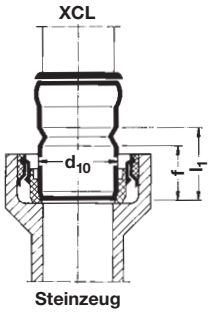
Connectors from LORO-XCL Pipe to Plastic Pipe Sockets (KA-Socket) Material No. 1.4404



Art.-No.	DN (XCL)	DN (KA)	l_1	f	d_{10}	kg
5.630.100C	100*	100*	110	80	110	0,9
5.642.125C	125	125	130	85	125	1,4
-	150	150	direct**			

** LORO-XCL Pipes DN 150 fits without Connectors direct in plastic sockets 150 mm

Connectors from LORO-XCL Pipe to Pottery Sockets Material No. 1.4404



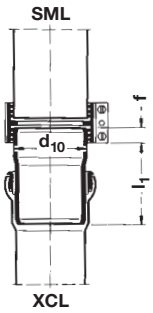
Art.-No.	DN (XCL)	DN (St)	l_1	f	d_{10}	kg
5.630.100C	100	100	110	80	110	0,9
5.600.DE0C	100	125	160	100	133	1,3
5.600.DF0C	100	150	170	110	160	1,6
-	125	125	direct			
5.600.EF0C	125	150	150	110	160	1,7
-	150	150	direct			

Caution: Connectors for LORO-XCL pipes to stoneware pipe-sockets are identical to the connectors for cast iron pipes, but have to be used together with the "transition ring" provided by the cast iron manufacturer.

Please note: When placing orders involving material No. 1.4404, the digit **4** in front of the article No. must be replaced by a **5**

Connectors for different types of pipes to LORO-XCL

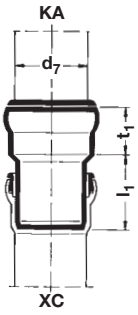
Connectors from Cast Iron Pipes (SML) to LORO-XCL Socket



Art.-No.	DN (SML)	DN (XCL)	l_1	f	d_{10}	kg
5.710.070C	70	70	73	35	78	0,2
5.710.080C	80	80	75	40	83	0,4
5.710.100C	100	100	92	40	110	0,5
-	125	125	direct*			
-	150	150	direct*			

* Cast Iron Pipes DN 125 and DN 150 fits with LORO-XCL Sealing Element in LORO-XCL Sockets

Connectors from Pipe of Plastic* (KA) to LORO-XCL Socket



Art.-No.	DN (KA)	DN (XCL)	l_1	t_1	d_7	kg
09152.050X*	50	50	Connection with sealing element 09152X			
5.750.070C**	70	70	95	55	75	0,3
5.750.100C***	100	100	110	70	110	0,6
09446.125X	125	125	Connection with sealing element 09446X			
-	150	150	direct****			

* EPDM connector gasket
** including EPDM gasket.
*** Vition transition gasket.
**** European PE Pipes with DN 150 usually fit to LORO-XCL sockets using the LORO gasket; check outside diameter of PE pipe..

Please note: When placing orders involving material No. 1.4404, the digit **4** in front of the article No. must be replaced by a **5**

Sealing Elements

	Art.-No.	DN	kg
of EPDM (Äthylen-Propylen-Kautschuk)	09112.040X	40	0,010
	09112.050X	50	0,012
	09112.070X	70	0,022
	09112.080X	80	0,035
	09112.100X	100	0,055
	09112.125X	125	0,100
	09112.150X	150	0,150
of SI (Methyl-Vinyl-Kautschuk)	09114.050X	50	0,012
	09114.070X	70	0,022
	09114.080X	80	0,035
	09114.100X	100	0,055
	09114.125X	125	0,100
	09114.150X	150	0,150
of SBR (Styrol-Butadien-Kautschuk)	00911.070X	70	0,022
	00911.080X	80	0,035
	00911.100X	100	0,055
	00911.125X	125	0,100
	00911.150X	150	0,150
of NBR (Nitril-Butadien-Kautschuk)	00911.040X	40	0,010
	00911.050X	50	0,012
	09111.070X	70	0,022
	09111.080X	80	0,035
	09111.100X	100	0,055
	09111.125X	125	0,100
	09111.150X	150	0,150

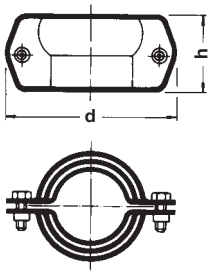
More Sealing Elements available on request.

Closing Plugs with Screw-type Cap
Material No. Pot 1.4571 / Cover 1.4301

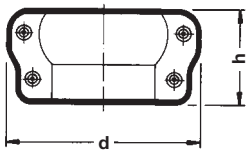
Art.-No.	DN	kg
00805.040X	40	0,2
00805.050X	50	0,2
00805.070X	70	0,2
00805.080X	80	0,4
00805.100X	100	0,5
00805.125X	125	0,9
00805.150X	150	1,2

Anchor Clips
Material No. 1.4301

DN 40 - 80



DN 100 - 125

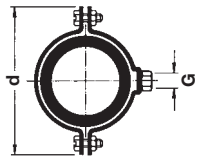


Art.-No.	DN	d	h	kg
4.806.040C	40	85	49	0,2
4.806.050C	50	110	60	0,4
4.806.070C	70	135	64	0,6
4.806.080C	80	150	70	0,8
4.806.100C	100	185	81	1,0
4.806.125C	125	220	90	1,2

Anchor Clips,
but with notching for pipe/branch connection
Material No. 1.4301

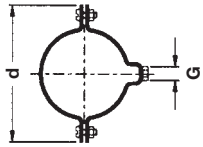
Art.-No.	DN	d	h	kg
4.8061040C	40	85	49	0,2
4.8061050C	50	110	60	0,4
4.8061070C	70	135	64	0,6
4.8061080C	80	150	70	0,8
4.8061100C	100	185	81	1,0
4.8061125C	125	220	90	1,2

Pipe Clips with Connecting Threaded, without Sound Insulation Material No. 1.4301



Art.-No.	DN	d	G	kg
4.973.050C	50	107	M 8	0,25
4.973.070C	70	127	M 8	0,34
4.975.080C	80	143	M 10	0,42
4.975.100C	100	157	M 10	0,48
4.977.125C	125	187	M 12	0,66
4.977.150C	150	213	M 12	0,83

Pipe Clips with Connecting Threaded, without Sound Insulation Material No. 1.4301



Art.-No.	DN	d	G	kg
4.972.050C	50	117	M 8	0,20
4.972.070C	70	137	M 8	0,25
4.974.080C	80	157	M 10	0,30
4.974.100C	100	167	M 10	0,33
4.976.125C	125	197	M 12	0,49
4.976.150C	150	222	M 12	0,61

Set Screws* Material No. 1.4301

Art.-No.	length in mm
4.9601080C	M 8 x 80
4.9601100C	M 8 x 100
4.9602080C	M 10 x 80
4.9602100C	M 10 x 100
4.9602120C	M 10 x 120
4.9602150C	M 10 x 150
4.9612120C	M 12 x 120

Threaded Rods* Material No. 1.4301

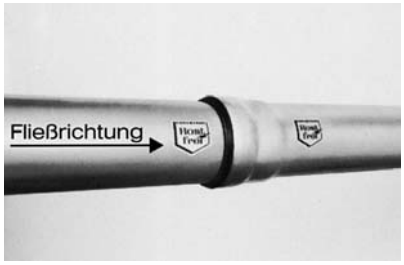
Art.-No.	length in mm
4.9603100C	M 8 x 100
4.9603120C	M 8 x 120
4.9604100C	M 10 x 100
4.9604120C	M 10 x 120
4.9622100C	M 12 x 100
4.9622120C	M 12 x 120

* in packaging units 25 pcs

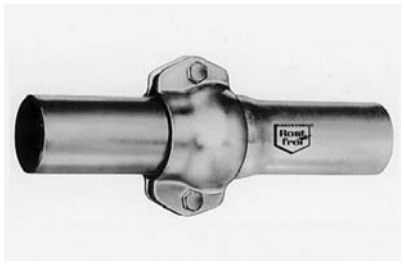

1.1


1.2


1.4



1.5


1.6

Installation Instructions

1. Assembling the LORO-XCL slip-in socket joint

1.1 Attach sealing element at an angle joint below on the edge of the seal chamber. Only use orginal LORO-XCL sealing elements.

For lower temperatures, store LORO-XCL sealing elements at room temperature for easier assembly.

1.2 Push in sealing element at the top with fingers so that it fill the seal chamber until the collar of the sealing element is positioned evenly on the socket rim.

1.3 Brush sealing element inside and slip-in pipe outside thoroughly with **LORO-X lubricant, no. 981X or 9811X**

1.4 Centrally align socket and slip-in pipe and fit togehter by rotating slightly. Push in slip-in pipe until it meets socket ground.

When installing pipes with larger nominal bores (DN 100- DN 150, it is possible to borrow an assembly auxiliary device from the plant.

1.5 Finished LORO-X socket joint (durable tightness for internal and external gauge pressure of 0 - 0,5 bar).

1.6 If higher pressures are expected, the socket connection can be anchored using the LORO-XCL anchor clip.
With the LORO-XCL anchor clip and adhesive sealing element, the following tightness values are attained

DN 50: 15 bar
DN 70: 5 bar
DN 80: 5 bar
DN 100: 5 bar
DN 125: 4 bar

2. Cutting to Length

The best way to cut LORO-XCL pipes to length is to use a **pipe cutter** with 3 or 4 small sharp cutting wheels without guide rolls. It can also be cut to length at right angles to the pipe axle using angle grinders with abrasive cutting wheels or saws.
Trim the inserted pipe on the inside and outside.
The zinc coating on the cutting faces provides cathodic protection and prevents rusting.
Sockets going against the flow direction (including double sockets) are not permitted in frost-prone areas.

3. Pipe Fastening

For fastening pipes, the following may be used from our programme: Pipe clamps with knocking pins, Pipe clamps with connecting threaded sockets or threaded rods or set screws, without/with noise insulation.
For the fastening of LORO-XCL pipes, the following weights must be taken into account:

Weight of 1 m pipe when completely filled with water:

DN 50 ca. 4,0 kg
DN 70 ca. 7,0 kg
DN 100 ca. 12,1 kg
DN 125 ca. 20,4 kg
DN 150 ca. 28,1 kg

4. Loosening the socket joint

Heat the slip-in pipe close to the socket rim with a low soldering flame until the pipe can be pulled out of the socket. The end of the flame should be approx. 10cm away from the pipe to be heated. It is essential that the **sealing element be changed** after this.

5. Connecting with Other Types of Pipe

When connecting LORO-XCL pipes to other types of pipe (cast iron pipe, plastic pipe, stone pipe), LORO-X connectors must be used. Suitable sealing elements for the connector LORO-XCL sockets are supplied by LOROWERK. We do not supply original sealing elements for externally manufactured sockets. For the connection of water traps in sanitary appliances, LOROWERK supplies special sealing elements.

Example of a tender text:

Item.	Qty	**LORO-XCL STAINLESS STEEL PIPES**	unit price. Euro	Total price Euro
		Material No. 1.4301 (or 1.4404 - please enter the quantity required), pickled, dimensions according to EN 1124-1 and EN 1124-3., socket connection		
		lfdm LORO-XCL Stainless Steel Pipes DN ..... Supply assembly		
		Stck LORO-XCL Branches DN ....., als Zulage Supply assembly		
		Stck LORO-XCL Reducing Branches DN ..... /....., as an addition Supply assembly		
		Stck LORO-XCL Bends, 15° - 87° DN ....., as an addition Supply assembly		
		Stck LORO-XCL Angle Bends DN ....., as an addition Supply assembly		
		Stck LORO-XCL Cleaning Pipes DN ....., as an addition, Please state the gasket type Supply assembly		
		Stck LORO-XCL Double Sockets DN ....., as an addition Supply assembly		
		Stck LORO-XCL Transition Pipes DN ..... /....., as an addition Supply assembly		
		Stck LORO-XCL Connectors LORO-XCL to SML DN ....., as an addition Supply assembly		
		Stck LORO-XCL Reducing Connectors LORO-XCL to SML DN ..... /....., as an addition Supply assembly		
		Stck LORO-XCL Connectors LORO-XCL to Pottery Socket DN ....., as an addition Supply assembly		

Example of a tender text:

Item.	Qty	**LORO-XCL STAINLESS STEEL Pipes**	unit price. Euro	Total price Euro
		Stck LORO-XCL Reducing Connectors LORO-XCL to Pottery Socket DN ..... /....., as an addition Supply assembly		
		Stck LORO-XCL Connectors SML to LORO-XCL DN ....., as an addition Supply assembly		
		Stck LORO-XCL Connectors KA to LORO-XCL-Socket Supply assembly		
		Stck LORO-XCL Closing Plugs DN ....., as an addition Please state the gasket type Supply assembly		
		Stck LORO-XCL Anchor Clips DN ....., as an addition Supply assembly		
		The material for the sealing elements depends on the composition of the waste water.		
		Stck surcharge on items. ..... - ..... for sealing elements DN ..... made of No. of items ..... EURO		
		..... % surcharge on items ..... - ..... for fixings of all kind, sound insulation etc.		

Zu beziehen durch den Fachgroßhandel:

LOROWERK K.H. Vahlbrauk GmbH & Co. KG
Kriegerweg 1, 37581 Bad Gandersheim; Postfach 13 80, 37577 Bad Gandersheim
Telefon +49(0)53 82.710 • Telefax +49(0)53 82.712 03
Internet: www.loro.de • e-mail: infocenter@lorowerk.de

1/LXCL ENG/1.0