



**SAMSUN MAKİNA
SANAYİ A.Ş.**

PIPES AND FITTINGS MADE OF DUCT CAST IRON



Samsun Makina Sanayi A.Ş (SMS) is one of the leading industrial companies in Turkey, providing services within the scope of design, manufacturing, installation of drinking water, wastewater and commissioning of infrastructure irrigation equipment.

Our production program, which began with centrifugal pumps in 1967, continues today with a very extensive program. Our ductile cast iron pipe factory, which began operations in Samsun's organized industrial zone in late 2002, is the first of its kind in Turkey. Since 2016, the production of large-diameter cast-iron pipes in the Adana Hacı industrial zone has been put into operation.

Thanks to our ISO 9001 quality management system, certified by accredited organizations, quality inspections are carried out regularly at all stages, from raw material input to product production. 100% of manufactured products are subjected to hydrostatic testing. SMS has the largest test stand in Turkey with a pump test stand that can test pumps of up to 10,000 kW.

SMS produces fast solutions to meet the needs of its customers in various corrosive environments. Customers' needs are met according to different coating requirements on wet and powder coating lines. In addition to bituminous and epoxy coatings made as standard, it develops solutions suitable for the materials and technologies that are developing every day in lines responsible for application of concrete, polyurethane and HDPE.

SMS also supplies electricity, which it uses to produce from green energy sources, thanks to HEPP's investment, wind and solar power in line with its environmental sustainability goals.

As SMS, we believe that we serve humanity by producing products related to the transmission of water, which is the most important resource for humanity.



PRODUCT PROPERTIES

SMS centrifugally cast ductile iron pipes and fittings are manufactured in compliance with the following standards:

Ductile cast iron pipes

2531 ISO	Ductile iron pipes, fittings, accessories and their joints
7186 ISO	Ductile iron pipes, fittings and accessories for sewerage applications
545 EN	Ductile iron pipes, fittings, accessories and their joints for water pipelines
598 EN	Ductile iron pipes, fittings, accessories and their joints for sewerage application

Internal Linings and External Coatings

ISO 8179-1	Ductile iron pipes - External zinc based coating- Part 1: Metallic zinc with finishing layer
4179 ISO	Ductile iron pipes for pressure and non-pressure pipelines - Cement mortar lining Ductile iron pipes - Polyethylene sleeving
8180 ISO	Ductile iron pipes, fittings and accessories
14628 EN	- External polyethylene coating for pipes in highly aggressive soils
15189 EN	Ductile iron pipes, fittings and accessories - External polyurethane coating for pipes
15542 EN	Ductile iron pipes, fittings and accessories - External cement mortar lining for pipes

MATERIAL PROPERTIES

Minimum tensile strength of 420 MPa

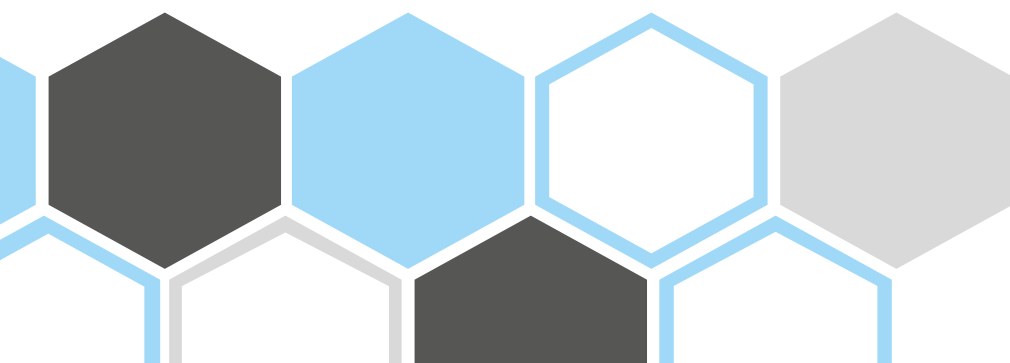
Minimum elongation 10% for pipes between DN 80-1000, 7% for DN 1100-2200, 5% for fittings between DN80-2200

Maximum value of Brinell hardness 230 HBW for centrifugally cast iron pipe, 250 HBW for fittings

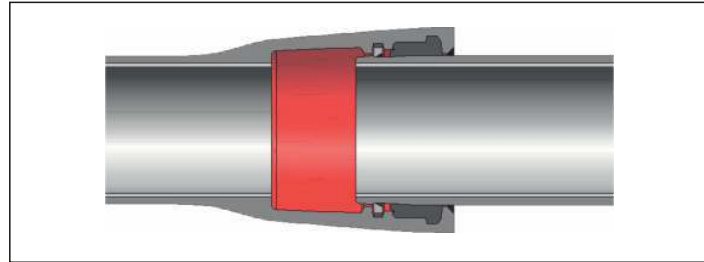


COATING TYPES FOR DUCTILE IRON SMS PIPE AND FITTINGS

External Coating Options for Pipe	
Zn Series	Metallic zinc (200 g/m ²)+with finishing layer (bituminous paint (minimum 70 micron) or epoxy paint (minimum 70 micron+ minimum average 80 micron) / ISO 8179-1 -EN 545 (ISO 2531)
AlZn Series	Alloy Zn85Al15 (400 g/m ²)+blue epoxy paint (minimum 70 micron, average 80 micron) / ISO 8179-1- EN 545 (ISO 2531)
AlZn+Cu Series	Zn85Al15 alloy (400 g/m ²)+Cu+blue acrylic (average 70 micron average 80 micron) / ISO 8179-1 - EN 545 (ISO 2531)
PU Series	Polyurethane coating (minimum 900 microns) / EN 15189
PE Series	Metallic zinc (200 g/m ²) + HDPE coating (standard/ or increased thickness) / EN 14628 HDPE coating (standard thickness / or increased thickness) / EN 14628.
ZMU Series	Metallic zinc (200 g/m ²)+exterior cement mortar coating (minimum 3 mm average 5 mm) / EN 15542
Water Sewage Series	Metallic zinc (200 g/m ²) + with a finishing coat of red-brown epoxy or bitumen paint in RAL 3009 (minimum 70 microns), for wastewater / EN 598 (ISO 7186)
Pre-insulation Series	Pre-insulated pipes: Pre-insulated pipe consists of usually of three parts: 1) Ductile iron pipe, 2) Polyurethane foam insulation layer 3) Casing pipe. Ductile iron pipe followed by thermal insulation layer of polyurethane foam as a protective cover of polyethylene pipe or aluminum sheet / galvanized; for thermal insulation, polyurethane foam is used between the ductile iron pipe and the casing pipe. The choice of foam thickness and casing material is made by customers according to the project
Internal Coating Options for Ductile Iron Pipe	
Portland cement mortar / ISO 4179 Sulfate resistant cement mortar / ISO 4179 Epoxy paint (minimum 70 microns average 80 microns) High alumina-cement mortar (minimum 40% Al) for wastewater EN 598/ ISO 4179	
External Coating Options for Ductile Iron Pipe	
Blue epoxy (minimum 250 microns) / EN 14901 Metallic paint with high zinc content + bituminous paint (minimum 250 microns) Epoxy resin primer + polyurethane (minimum 250 microns)	



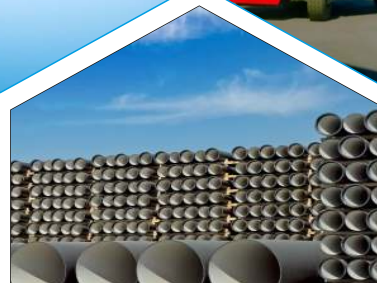
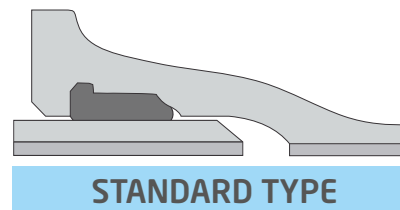
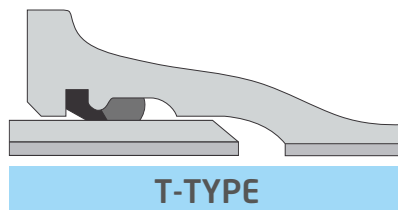
STANDARD TYPE CONNECTIONS OF A PROLONGATED FLARE

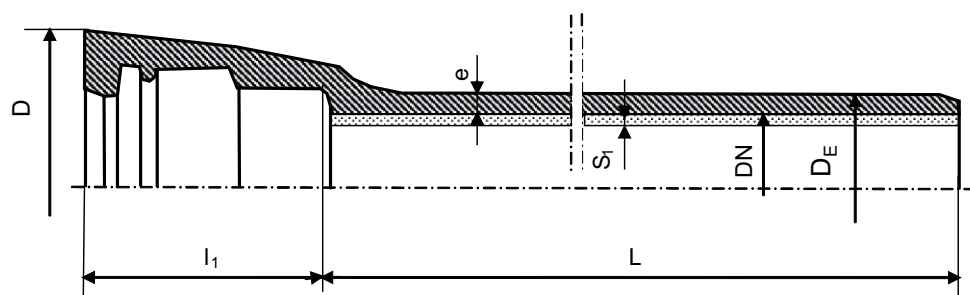


When the pipelines are to be laid in areas where ground deformation may be caused by liquefaction during an earthquake, and where ground settlement is expected in soft ground, or in areas of mining damage, the pipeline should be equipped with earthquake resistant couplings that have the ability to resist extension/shrinking and deflection

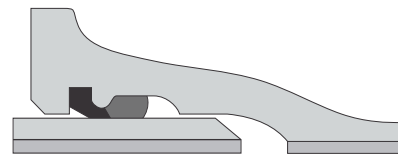
KINDS OF NOT LOCKED CONNECTIONS

Samsun Makina Sanayi manufactures pipes in diameter range DN80 - 2200 having standard flared and flanged type connections.





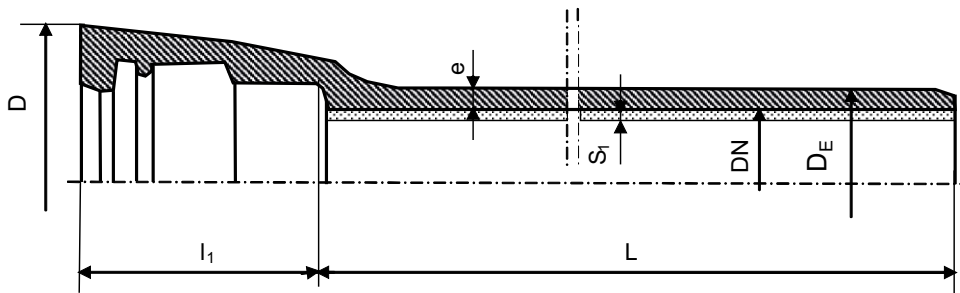
T-TYPE
CONNECTION



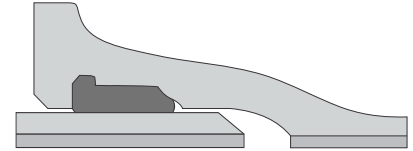
Diameter rated DN	Flare diameter D	Outer diam. DE	Press class C	Nominal thickness of e-wall	Thickness of the inner S1 cement-based coating	Angular deviation	Pipe mass (6000/kg)
80	145	98	C40	4,4	4	5°	74,1
			C50	4,9			79,9
			C64	5,4			85,7
			C100	6,1			93,7
100	165	118	C40	4,4	4	5°	90,3
			C50	4,9			97,6
			C64	5,4			104,7
			C100	6,1			114,6
125	195	144	C40	4,4	4	5°	111,9
			C50	4,9			120,8
			C64	5,4			129,7
			C100	6,4			147,3
150	220	170	C40	4,5	4	5°	135,4
			C50	5,0			146,2
			C64	5,5			156,8
			C100	7,4			196,6
200	275	222	C40	4,6	4	5°	182,2
			C50	5,4			204,9
			C64	6,5			236
			C100	9,2			310,6
250	325	274	C40	5,5	4	5°	259,5
			C50	6,4			291,2
			C64	7,7			336,7
300	385	326	C40	6,2	4	5°	341,7
			C50	7,3			287,9
			C64	8,9			454,7
350	435	378	C30	6,4	5	4°	424,6
			C40	7,0			454
400	490	429	C30	6,5	5	4°	491,3
			C40	7,7			558,4
500	600	532	C30	7,4	5	4°	680,7
			C40	9,3			812,7
600	709	635	C30	8,6	5	4°	923,2
			C40	10,8			1106,1
700	820	738	C25	8,8	5	4°	1135,8
			C30	9,8			1232,9
800	931	842	C25	9,6	6	4°	1399,6
			C30	11,0			1554,9
900	1039	945	C25	10,6	6	4°	1711,4
			C30	12,2			1911,4
1000	1148	1048	C25	11,6	6	4°	2057,9
			C30	13,4			2306,9

DUCTILE IRON PIPES

STANDARD TYPE C CLASS NOT LOCKED CONNECTIONS ACCORDING TO PN-EN 545;2010

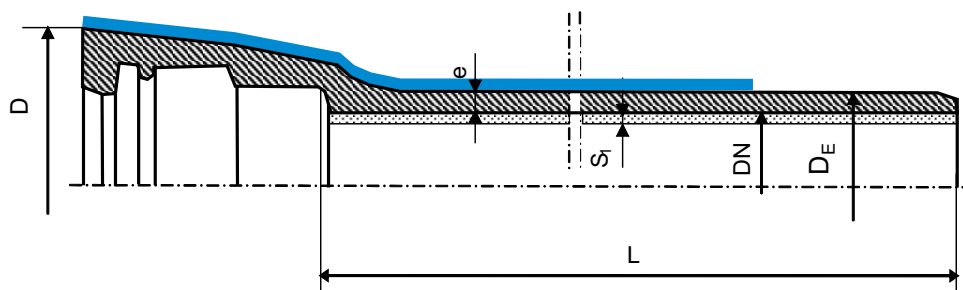


STANDARD-TYPE CONNECTION



Rated diam. DN	Flare diameter D	Outer diam. DE	Pressure class C	Nominal thickness of e-wall	Thickness of the inner S1 cement-based coating	Angular deviation	Agreed pipe weigh (6000/kg)	Agreed pipe weigh (8015/kg)
80	150	98	C40	4,4	4	5°	74,1	-
			C50	4,9			79,9	-
			C64	5,4			85,7	-
			C100	6,1			93,7	-
100	170	118	C40 C50	4,4 4,9	4	5°	90,3 97,6	-
125	195	144	C40 C50	4,5 5,0	4	5°	111,9 120,8	-
150	225	170	C40 C50	4,6 5,4	4	5°	135,4 146,2	-
200	275	222	C40 C50	5,5 6,4	4	5°	182,2 204,9	-
250	330	274	C40 C50	5,5 6,4	4	5°	259,5 291,2	-
300	390	326	C40 C50	6,2 7,3	4	5°	341,7 387,9	-
350	440	378	C30 C40	6,4 7,0	5	4°	424,6 387,9	-
400	495	429	C30 C40	6,5 7,7	5	4°	491,3 558,4	-
500	600	532	C30 C40	7,4 9,3	5	4°	680,7 812,7	-
600	709	635	C30 C40	8,6 10,8	5	4°	923,2 1106,1	-
700	820	738	C25 C30	8,8 9,8	6	4°	1135,8 1232,9	-
800	931	842	C25 C30	9,6 11,0	6	4°	1399,6 1554,9	-
900	1039	945	C25 C30	10,6 12,2	6	4°	1711,9 1911,4	-
1000	1148	1048	C25 C30	11,6 13,4	6	4°	2057,9 2306,9	-
1100	1255	1152	C25	12,6	6	3°	2382,1	-
1200	1360	1255	C25	13,6	6	3°	2782	-
1400	1590	1462	C25	15,7	9	2°	-	4728
1500	1695	1565	C25	16,7	9	2°	-	5484
1600	1805	1668	C25	17,7	9	2°	--	6181
1800	2025	1875	C25	19,7	9	2°	-	7743
2000	2245	2082	C25	21,8	9	2°	-	7743

NOT LOCKED T-TYPE C-CLASS CONNECTION



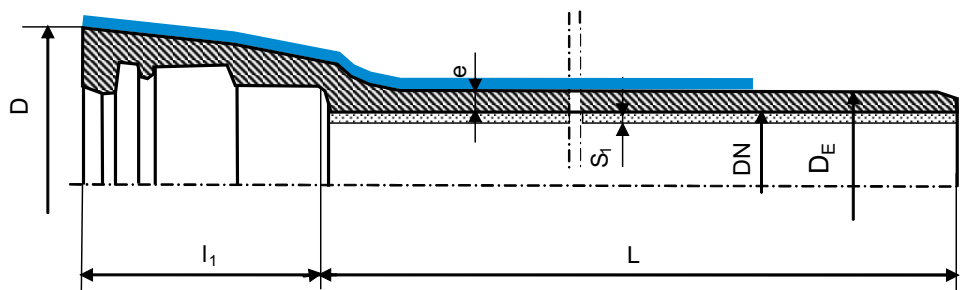
Rated diam. DN	Flare diam. D	Outer diam. DE	Press. class C/PFA (bar)	Nominal thickness of e-wall	Thickness of the inner S1 cement-based coating	Thickness of PE coating	Angular deviation	Agreed pipe weigh (6000/kg)
80	145	98	C40	4,4	4	2	5°	74,1
			C50	4,9				79,9
			C64	5,4				85,7
			C100	6,1				93,7
100	165	118	C40	4,4	4	2	5°	90,3
			C50	4,9				97,6
			C64	5,4				104,7
			C100	6,1				114,6
125	195	144	C40	4,4	4	2	5°	111,9
			C50	4,9				120,8
			C64	5,4				129,7
			C100	6,4				147,3
150	220	170	C40	4,5	4	2	5°	135,4
			C50	5,0				146,2
			C64	5,5				156,8
			C100	7,4				196,6
200	275	222	C40	4,6	4	2	5°	182,2
			C50	5,4				204,9
			C64	6,5				236
			C100	9,2				310,6
250	325	274	C40	5,5	4	2,2	5°	259,5
			C50	6,4				291,2
			C64	7,7				336,7
300	385	326	C40	6,2	4	2,2	5°	341,7
			C50	7,3				287,9
			C64	8,9				454,7
350	435	378	C30	6,4	5	2,2	4°	424,6
			C40	7,0				454
400	490	429	C30	6,5	5	2,2	4°	491,3
			C40	7,7				558,4
500	600	532	C30	7,4	5	2,5	4°	680,7
			C40	9,3				812,7
600	709	635	C30	8,6	5	2,5	4°	923,2
			C40	10,8				1106,1
700	820	738	C25	8,8	5	2,5	4°	1135,8
			C30	9,8				1232,9
800	931	842	C25	9,6	6	3	4°	1399,6
			C30	11,0				1554,9
900	1039	945	C25	10,6	6	3	4°	1711,4
			C30	12,2				1911,4
1000	1148	1048	C25	11,6	6	3	4°	2057,9
			C30	13,4				2306,9

DUCTILE IRON PIPES

SK-TYPE INTERLOCKED CONNECTIONS & NOT LOCKED CONNECTIONS
T-TYPE & STANDARD TYPE WITH PE COATING ACC. TO PN-EN 545;2010

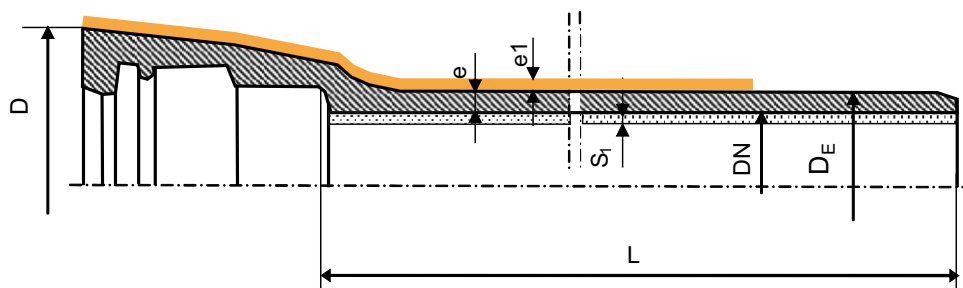


NOT LOCKED CONNECTIONS OF STANDARD TYPE AND C CLASS



Rated diam. DN	Flare diameter D	Outer diam. DE	Pressure class C	Nominal thickness of e-wall	Thickness of the inner S1 cement-based coating	Thickness of PE coating	Angular deviation	Agreed pipe weigh (6000/kg)	Agreed pipe weigh (8015/kg)
80	150	98	C40	4,4	4	2	5°	74,1	-
			C50	4,9				79,9	-
			C64	5,4				85,7	-
			C100	6,1				93,7	-
100	170	118	C40 C50	4,4 4,9	4	2	5°	90,3 97,6	-
125	195	144	C40 C50	4,5 5,0	4	2	5°	111,9 120,8	-
150	225	170	C40 C50	4,6 5,4	4	2	5°	135,4 146,2	-
200	275	222	C40 C50	5,5 6,4	4	2	5°	182,2 204,9	-
250	330	274	C40 C50	5,5 6,4	4	2,2	5°	259,5 291,2	-
300	390	326	C40 C50	6,2 7,3	4	2,2	5°	341,7 387,9	-
350	440	378	C30 C40	6,4 7,0	5	2,2	4°	424,6 387,9	-
400	495	429	C30 C40	6,5 7,7	5	2,2	4°	491,3 558,4	-
500	600	532	C30 C40	7,4 9,3	5	2,5	4°	680,7 812,7	-
600	709	635	C30 C40	8,6 10,8	5	2,5	4°	923,2 1106,1	-
700	820	738	C25 C30	8,8 9,8	6	2,5	4°	1135,8 1232,9	-
800	931	842	C25 C30	9,6 11,0	6	3	4°	1399,6 1554,9	-
900	1039	945	C25 C30	10,6 12,2	6	3	4°	1711,9 1911,4	-
1000	1148	1048	C25 C30	11,6 13,4	6	3	4°	2057,9 2306,9	-
1100	1255	1152	C25	12,6	6	3	3°	2382,1	-
1200	1360	1255	C25	13,6	6	3	3°	2782	-
1400	1590	1462	C25	15,7	9	3	2°	-	4728
1500	1695	1565	C25	16,7	9	3,5	2°	-	5484
1600	1805	1668	C25	17,7	9	3,5	2°	--	6181
1800	2025	1875	C25	19,7	9	3,5	2°	-	7743
2000	2245	2082	C25	21,8	9	3,5	2°	-	7743

NOT LOCKED T-TYPE C-CLASS CONNECTION



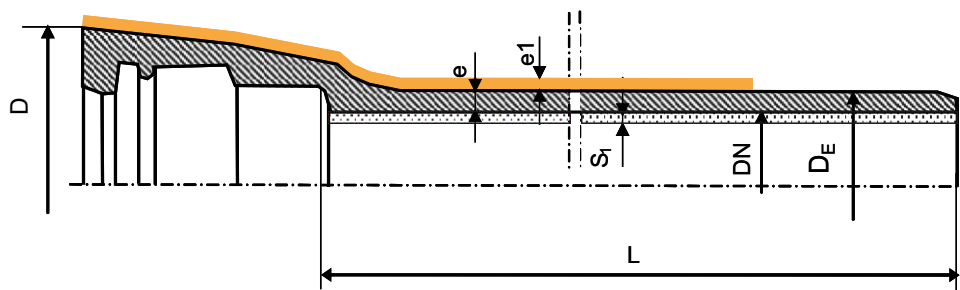
Rated diam. DN	Flare diam. D	Outer diam. DE	Press. class C/PFA (bar)	Nominal thickness of e-wall	Thickness of the inner S1 cement-based coating	Thickness of PE coating	Angular deviation	Agreed pipe weigh (6000/kg)
80	145	98	C40	4,4	4	900	5°	74,1
			C50	4,9				79,9
			C64	5,4				85,7
			C100	6,1				93,7
100	165	118	C40	4,4	4	900	5°	90,3
			C50	4,9				97,6
			C64	5,4				104,7
			C100	6,1				114,6
125	195	144	C40	4,4	4	900	5°	111,9
			C50	4,9				120,8
			C64	5,4				129,7
			C100	6,4				147,3
150	220	170	C40	4,5	4	900	5°	135,4
			C50	5,0				146,2
			C64	5,5				156,8
			C100	7,4				196,6
200	275	222	C40	4,6	4	900	5°	182,2
			C50	5,4				204,9
			C64	6,5				236
			C100	9,2				310,6
250	325	274	C40	5,5	4	900	5°	259,5
			C50	6,4				291,2
			C64	7,7				336,7
300	385	326	C40	6,2	4	900	5°	341,7
			C50	7,3				287,9
			C64	8,9				454,7
350	435	378	C30	6,4	5	900	4°	424,6
			C40	7,0				454
400	490	429	C30	6,5	5	900	4°	491,3
			C40	7,7				558,4
500	600	532	C30	7,4	5	900	4°	680,7
			C40	9,3				812,7
600	709	635	C30	8,6	5	900	4°	923,2
			C40	10,8				1106,1
700	820	738	C25	8,8	5	900	4°	1135,8
			C30	9,8				1232,9
800	931	842	C25	9,6	6	900	4°	1399,6
			C30	11,0				1554,9
900	1039	945	C25	10,6	6	900	4°	1711,4
			C30	12,2				1911,4
1000	1148	1048	C25	11,6	6	900	4°	2057,9
			C30	13,4				2306,9

DUCTILE IRON PIPES



SK-TYPE INTERLOCKED CONNECTIONS & NOT LOCKED CONNECTIONS
T-TYPE & STANDARD TYPE WITH PU COATING ACC. TO PN-EN 545;2010

NOT LOCKED CONNECTIONS OF STANDARD TYPE AND C CLASS



Rated diam. DN	Flare diameter D	Outer diam. DE	Pressure class C	Nominal thickness of e-wall	Thickness of the inner S1 cement-based coating	Thickness of PE coating	Angular deviation	Agreed pipe weigh (6000/kg)	Agreed pipe weigh (8015/kg)
80	150	98	C40	4,4	4	900	5°	74,1	-
			C50	4,9				79,9	-
			C64	5,4				85,7	-
			C100	6,1				93,7	-
100	170	118	C40 C50	4,4 4,9	4	900	5°	90,3 97,6	-
125	195	144	C40 C50	4,5 5,0	4	900	5°	111,9 120,8	-
150	225	170	C40 C50	4,6 5,4	4	900	5°	135,4 146,2	-
200	275	222	C40 C50	5,5 6,4	4	900	5°	182,2 204,9	-
250	330	274	C40 C50	5,5 6,4	4	900	5°	259,5 291,2	-
300	390	326	C40 C50	6,2 7,3	4	900	5°	341,7 387,9	-
350	440	378	C30 C40	6,4 7,0	5	900	4°	424,6 387,9	-
400	495	429	C30 C40	6,5 7,7	5	900	4°	491,3 558,4	-
500	600	532	C30 C40	7,4 9,3	5	900	4°	680,7 812,7	-
600	709	635	C30 C40	8,6 10,8	5	900	4°	923,2 1106,1	-
700	820	738	C25 C30	8,8 9,8	6	900	4°	1135,8 1232,9	-
800	931	842	C25 C30	9,6 11,0	6	900	4°	1399,6 1554,9	-
900	1039	945	C25 C30	10,6 12,2	6	900	4°	1711,9 1911,4	-
1000	1148	1048	C25 C30	11,6 13,4	6	900	4°	2057,9 2306,9	-
1100	1255	1152	C25	12,6	6	900	3°	2382,1	-
1200	1360	1255	C25	13,6	6	900	3°	2782	-
1400	1590	1462	C25	15,7	9	900	2°	-	4728
1500	1695	1565	C25	16,7	9	900	2°	-	5484
1600	1805	1668	C25	17,7	9	900	2°	--	6181
1800	2025	1875	C25	19,7	9	900	2°	-	7743
2000	2245	2082	C25	21,8	9	900	2°	-	7743

TYPES OF INTERLOCKED CONNECTIONS

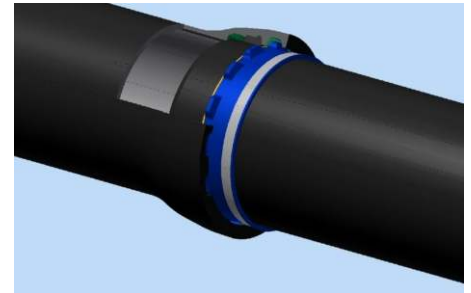
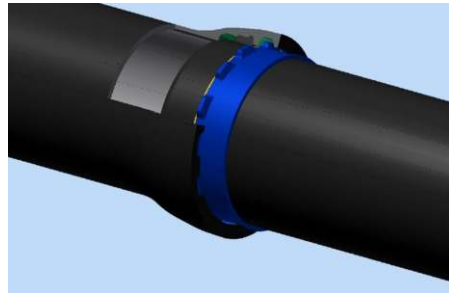
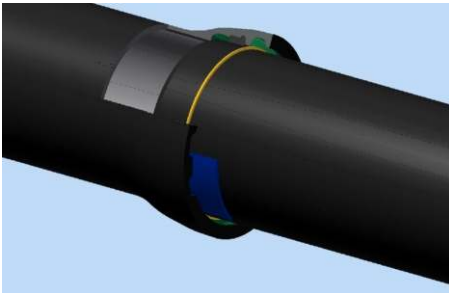
SK-TYPE INTERLOCKED CONNECTION

Interlocking is achieved by inserting multiple interlocking segments into the socket on the circumference of the pipe interlocked against a welded hump on the bare end of the pipe

ADVANTAGES

Eliminates thrust blocks. Use for trenchless methods

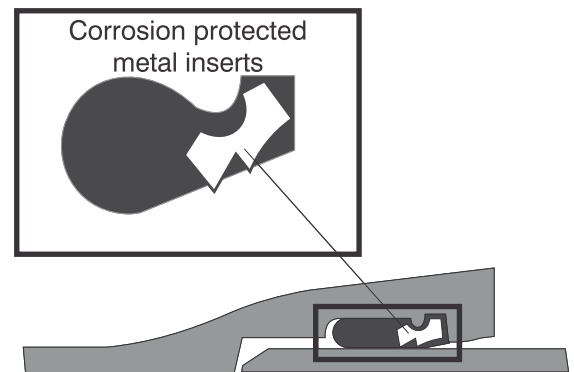
Location in unstable soils when installing overhead pipelines; overpasses bridges tunnels



SYSTEM T-LOCK

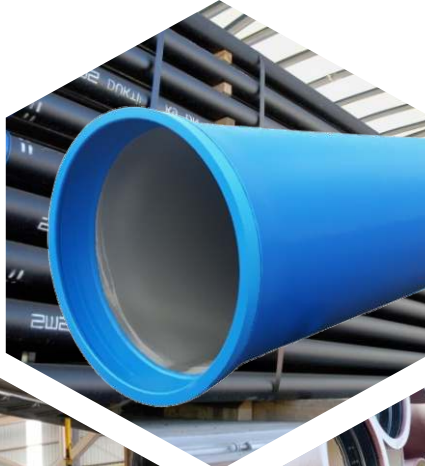
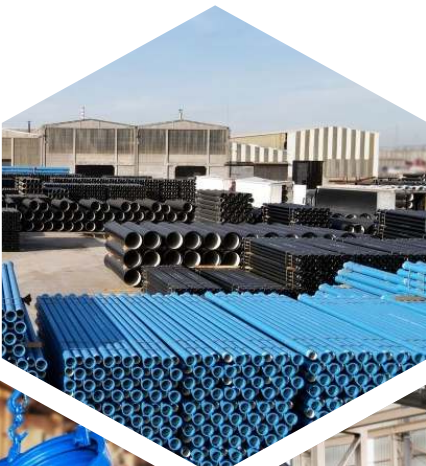
T-Lock system is a method, which provides locking in the ductile iron pipelines.

By the way of stainless steel, clawed segments within the gasket, the T-Lock plus type gasket transforms the normal spigot and socket joint into locked joint.



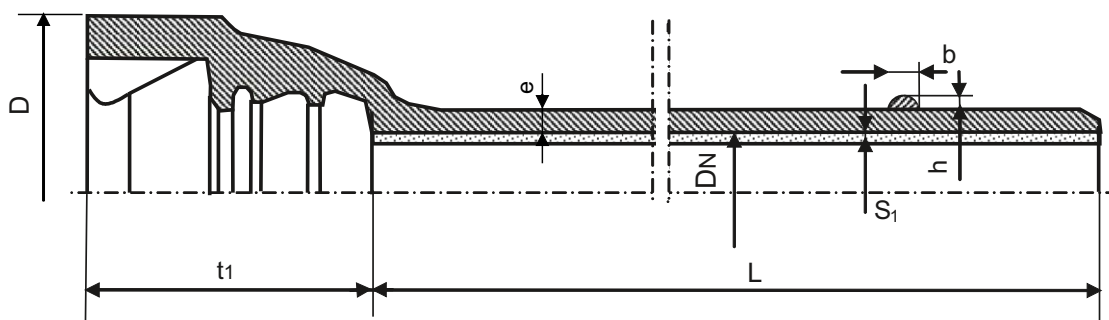
Working pressure

T-Lock plus type gaskets, are available in sizes from DN80 to DN600 and their working pressure is 16 bar



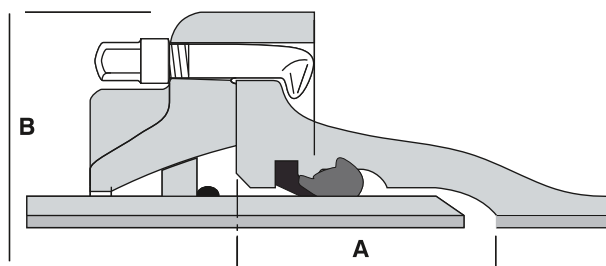
DUCTILE IRON PIPES

SK-TYPE INTERLOCKED CONNECTIONS ACCORDING TO PN-EN 545;2010



Rated diam. DN	Flare diam. D	Outer diam. DE	Press. class C/PFA (bar)	Nominal thickness of e-wall	Thickness of the inner S1 cement-based coating	t1	a	b	h	Angular deviation	Segments	Agreed pipe weigh (6000/kg)	Agreed pipe weigh (8015/kg)
80	161	98	C40/40 C50/40	4,4 4,9	4	130	82	8	6	2,5°	3	78,29 81,29	-
100	186	118	C40/40 C50/40	4,4 4,9	4	140	88	8	6	2,5°	3	90,52 100,52	-
125	216,5	144	C40/40 C50/40	4,6 5,4	4	147	93	8	6	2,5°	4	101,82 111,82	-
150	235	170	C40/40 C50/40	5,5 6,4	4	152	95	8	6	2,5°	4	135,29 149,29	-
200	287	222	C40/40 C50/40	5,5 6,4	4	155	95	8	6	2,5°	5	190,1 209,1	-
250	356,1	274	C40/40 C50/40	6,2 7,3	4	162	97	8	6	2,5°	5	277 308	-
300	405,8	326	C40/40 C50/40	6,4 7,0	4	168	08	8	6	2,5°	6	360 411	-
400	518	429	C40/40 C50/40	6,5 7,7	5	170	07	8	6	2°	7	603 685	-
500	623	532	C30/30 C40/30	7,4 9,3	5	175	10	8	6	2°	8	744 867	-
600	728	635	C30/30 C40/30	8,6 10,8	5	185	20	8	6	2°	8	991 1173	-
700	835,6	738	C25/25 C30/25	8,8 9,8	6	212	30	8	6	1,5°	10	1245 1340	-
800	950	842	C25 C30	9,6 11,0	6	220	35	8	6	1,5°	10	1529 1689	-
900	1053	945	C25/25 C30/25	10,6 12,2	6	225	35	8	6	1,5°	13	1884 2087	-
1000	1170	1048	C25 C30	11,6 13,4	6	243	47	8	6	1,5°	14	2249 2476	-
1100	1265	1152	C25/25 C30/25	12,6	6	237	52	8	6	1,5°	15	2628 2894	-
1200	1375	1255	C25/25 C30/25	13,6	6	239	154	8	6	1,5°	16	3022 3282	-
1400	1595	1462	C25/25 C30/25	15,7	9	324	230	8	6	1,5°	18	-	5051 6003
1500	1698	1565	C25/10	16,7	9	336	238	8	6	0,75°	20	-	5832 6897
1600	1840	1668	C25/10	17,7	9	360	247	11	6	0,75°	21	-	6556 7767
1800	2060	1875	C25/10	19,7	9	376	250	11	6	0,75°	25	-	8155 9695
2000	2280	2082	C25/10	21,8	9	403	250	11	6	0,75°	30	-	9898 11798

INTERLOCKED CONNECTIONS ANCHORED TYPE WITH LOCKING RING ACCORDING TO PN-EN 545;2010



Rated diam. DN	Outer diam. DE	Tolerance	Pipe class	PFA	Type of connections	A	B	Number of screws	Screw size	Angular deviation
80	98	+1 / -2,7	C40, K9	40	T / STD	85	232	4	M20x70	2,5°
100	118	+1 / -2,8	C40, K9	40	T / STD	88	253	4	M20x70	2,5°
125	144	+1 / -2,8	C40, K9	40	T / STD	93	285	4	M20x70	2,5°
150	170	+1 / -2,9	C40, K9	40	T / STD	93	308	6	M20x70	2,5°
200	222	+1 / -3,0	C40, K9	40	T / STD	100	368	10	M20x70	2,5°
250	274	+1 / -3,1	C40, K9	40	T / STD	105	462	8	M27x110	2,5°
300	326	+1 / -3,3	C40, K9	40	T / STD	110	518	12	M27x110	2,5°
350	378	+1 / -3,4	C40, K9	25	T / STD	110	573	12	M27x110	2°
400	429	+1 / -3,5	C40, K9	25	T / STD	110	630	14	M27x110	2°
450	480	+1 / -3,6	C40, K9	25	T / STD	120	680	14	M27x110	2°
500	532	+1 / -3,8	C40, K9	25	T / STD	120	738	16	M27x110	2°
600	635	+1 / -4,0	C40, K9	25	T / STD	120	847	20	M27x110	2°
700	738	+1 / -4,3	C30, K9	16	T / STD	150	964	24	M27x120	1,5°
800	842	+1 / -4,5	C30, K9	16	T / STD	150	1075	30	M27x120	1,5°
900	945	+1 / -4,8	C30, K9	16	T / STD	150	1185	36	M27x120	1,5°
1000	1048	+1 / -5,0	C30, K9	16	T / STD	158	1300	40	M27x120	1,5°
1100	1152	+1 / -6,0	C25, K9	16	STD	161	1415	40	M27x120	1,5°
1200	1255	+1 / -5,8	C25, K9	16	STD	165	1535	40	M27x120	1,5°
1400	1462	+1 / -6,6	C25, K9	16	STD	245	1795	48	M27x140	1,5°
1500	1565	+1 / -7,0	C25, K9	16	STD	255	1900	52	M27x140	1,5°
1600	1668	+1 / -7,4	C25, K9	16	STD	265	2003	56	M27x150	1,5°

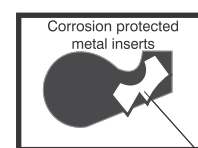
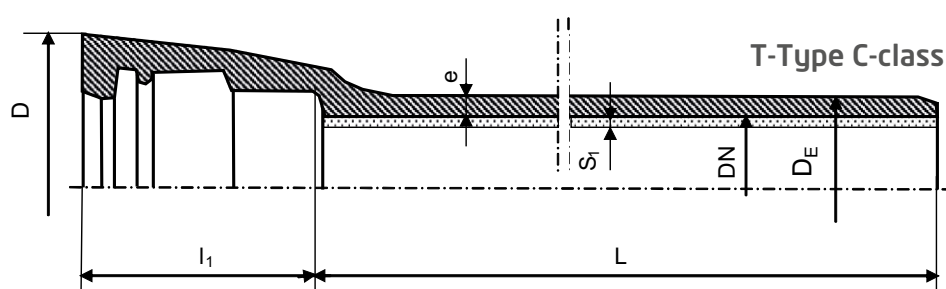
DUCTILE IRON PIPES

T-LOCK TYPE INTERLOCKED CONNECTIONS ACCORDING TO PN-EN 545;2010



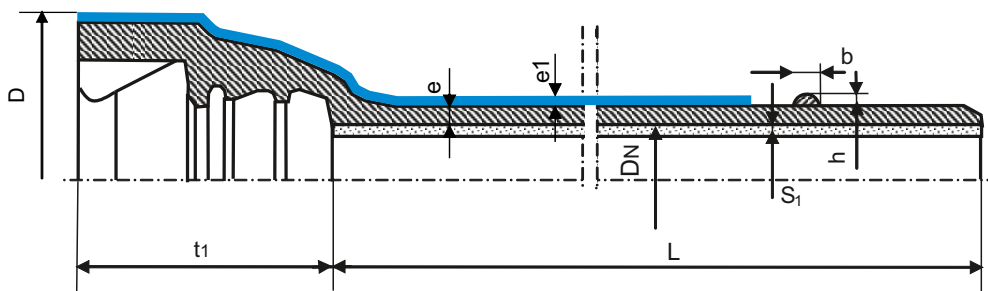
T-LOCK INTERLOCKED CONNECTION

T-Lock system is a method, which provides locking in the ductile iron pipelines. By using stainless steel claw segments in the gasket, the T-Lock plus gasket converts a normal T-Type socket connection into a locking connection. Working pressure: T-Lock plus type gaskets, are available in sizes from DN80 to DN600 and their working pressure is 16 bar

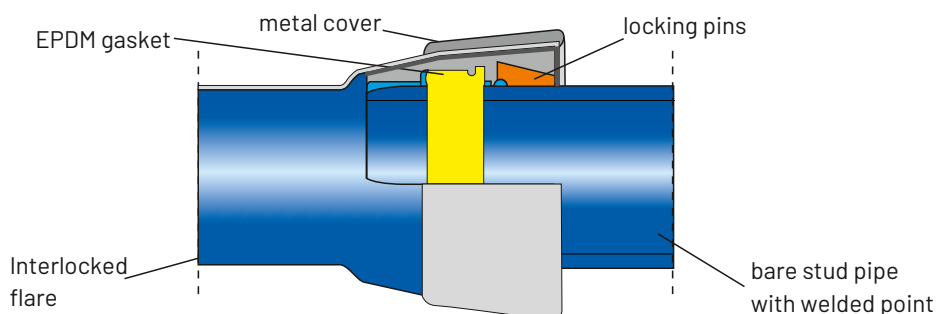


T-Lock is used for T-Type flared profile pipes

Rated diam. DN	Flare diam. D	Outer diam. DE	Pressure class. C/PFA (Bar)	Nominal thickness of e-wall	Thickness of the inner S1 cement-based coating	Agreed pipe weigh (6000/kg)
80	145	98	C40/25 C64/25	4,4 4,9	4	74,1 85,7
100	165	118	C40/25 C64/25	4,4 4,9	4	90,3 104,7
125	195	144	C40/25 C64/25	4,6 5,4	4	111,9 129,7
150	220	170	C40/25 C64/25	5,5 6,4	4	135,4 156,8
200	275	222	C40/25 C64/25	5,5 6,4	4	182,2 236
250	325	274	C40/25 C64/25	6,2 7,3	4	259,5 336,7
300	385	326	C40/25 C64/25	6,4 7,0	4	341,7 454,7
350	435	378	C30/16	6,5	5	424,6
400	490	429	C30/16	7,4	5	491,3
500	600	532	C30/16	8,6	5	680,7
600	709	635	C30/16	8,8	6	923,2



Rated diam. DN	Flare diam. D	Outer diam. DE	Press. class C/PFA (bar)	Nominal thickness of e-wall	Thickness of the inner S1 cement-based coating	t1	a	b	h	Angular deviation	Segments	Agreed pipe weigh (6000/kg)
80	161	98	C40/40 C50/40	4,4 4,9	4	130	82	8	6	2,5°	3	96,8 99,8
100	186	118	C40/40 C50/40	4,4 4,9	4	140	88	8	6	3°	3	112,8 122,8
125	216,5	144	C40/40 C50/40	4,6 5,4	4	147	93	8	6	2,5°	4	128,9 138,9
150	235	170	C40/40 C50/40	5,5 6,4	4	152	95	8	6	3°	4	167,4 181,3
200	287	222	C40/40 C50/40	5,5 6,4	4	155	95	8	6	2,5°	5	41,8 250,9
250	356,1	274	C40/40 C50/40	6,2 7,3	4	162	97	8	6	2,5°	5	250,9 328,6
300	405,8	326	C40/40 C50/40	6,4 7,0	4	168	08	8	6	2,5°	6	421,4 61,4
400	518	429	C40/40 C50/40	6,5 7,7	5	170	07	8	6	2°	7	80,8 683,8
500	623	532	C30/30 C40/30	7,4 9,3	5	175	10	8	6	2°	8	844,2 967,2
600	728	635	C30/30 C40/30	8,6 10,8	5	185	20	8	6	2°	8	1110,6 1292,6
700	835,6	738	C25/25 C30/25	8,8 9,8	5	212	30	8	6	1,5°	10	1384,0 1479,0
800	950	842	C25 C30	9,6 11,0	6	220	35	8	6	1,5°	10	1687,6 1847,6
900	1053	945	C25/25 C30/25	10,6 12,2	6	225	35	8	6	1,5°	13	2062,0 2265,0
1000	1170	1048	C25 C30	11,6 13,4	6	243	47	8	6	1,5°	14	2446,4 2673,4

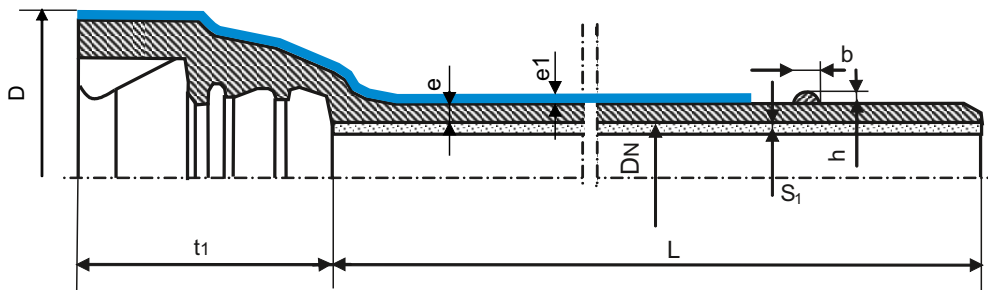


DUCTILE IRON PIPES

SK-TYPE INTERLOCKED CONNECTIONS OF ST-TYPE WITH PE COATING ACC. TO PN-EN 545;2010

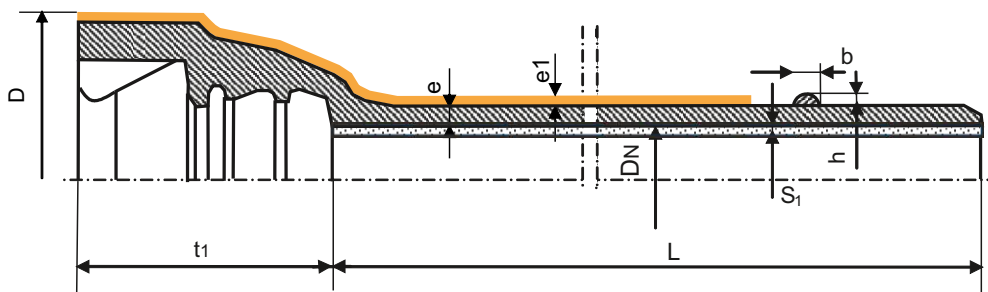


INTERLOCKED CONNECTIONS SK-Type



Rated diam. DN	Flare diam. D	Outer diam. DE	Press. class C/PFA (bar)	Nominal thickness of e-wall	Thickness of the inner S1 cement-based coating	Thickness of PE coating	t1	a	b	h	Angular deviation	Segments	Agreed pipe weigh (6000/kg)	Agreed pipe weigh (8015/kg)
80	161	98	C40/40 C50/40	4,4 4,9	4	2	130	82	8	6	2,5°	3	78,29 81,29	-
100	186	118	C40/40 C50/40	4,4 4,9	4	2	140	88	8	6	3°	3	90,52 100,52	-
125	216,5	144	C40/40 C50/40	4,6 5,4	4	2	147	93	8	6	2,5°	4	101,82 111,82	-
150	235	170	C40/40 C50/40	5,5 6,4	4	2	152	95	8	6	3°	4	135,29 149,29	-
200	287	222	C40/40 C50/40	5,5 6,4	4	2	155	95	8	6	2,5°	5	190,1 209,1	-
250	356,1	274	C40/40 C50/40	6,2 7,3	4	2,2	162	97	8	6	2,5°	5	277 308	-
300	405,8	326	C40/40 C50/40	6,4 7,0	4	2,2	168	08	8	6	2,5°	6	360 411	-
400	518	429	C40/40 C50/40	6,5 7,7	5	2,2	170	07	8	6	2°	7	603 685	-
500	623	532	C30/30 C40/30	7,4 9,3	5	2,5	175	10	8	6	2°	8	744 867	-
600	728	635	C30/30 C40/30	8,6 10,8	5	2,5	185	20	8	6	2°	8	991 1173	-
700	835,6	738	C25/25 C30/25	8,8 9,8	6	2,5	212	30	8	6	1,5°	10	1245 1340	-
800	950	842	C25 C30	9,6 11,0	6	3	220	35	8	6	1,5°	10	1529 1689	-
900	1053	945	C25/25 C30/25	10,6 12,2	6	3	225	35	8	6	1,5°	13	1884 2087	-
1000	1170	1048	C25 C30	11,6 13,4	6	3	243	47	8	6	1,5°	14	2249 2476	-
1100	1265	1152	C25/25 C30/25	12,6	6	3	237	52	8	6	1,5°	15	2628 2894	-
1200	1375	1255	C25/25 C30/25	13,6	6	3	239	154	8	6	1,5°	16	3022 3282	-
1400	1595	1462	C25/25 C30/25	15,7	9	3	324	230	8	6	1,5°	18	-	5051 6003
1500	1698	1565	C25/10	16,7	9	3,5	336	238	8	6	0,75°	20	-	5832 6897
1600	1840	1668	C25/10	17,7	9	3,5	360	247	11	6	0,75°	21	-	6556 7767
1800	2060	1875	C25/10	19,7	9	3,5	376	250	11	6	0,75°	25	-	8155 9695
2000	2280	2082	C25/10	21,8	9	3,5	403	250	11	6	0,75°	30	-	9898 11798

INTERLOCKED CONNECTIONS SK-Type



Rated diam. DN	Flare diameter D	Outer diam. DE	Pressure class C	Nominal thickness of e-wall	Thickness of the inner S1 cement-based coating	Thickness of PU coating	Angular deviation	Agreed pipe weigh (6000/kg)	Agreed pipe weigh (8015/kg)
80	150	98	C40 C50 C64 C100	4,4 4,9 5,4 6,1	4	900	5°	74,1 79,9 85,7 93,7	- - - -
100	170	118	C40 C50	4,4 4,9	4	900	5°	90,3 97,6	-
125	195	144	C40 C50	4,5 5,0	4	900	5°	111,9 120,8	-
150	225	170	C40 C50	4,6 5,4	4	900	5°	135,4 146,2	-
200	275	222	C40 C50	5,5 6,4	4	900	5°	182,2 204,9	-
250	330	274	C40 C50	5,5 6,4	4	900	5°	259,5 291,2	-
300	390	326	C40 C50	6,2 7,3	4	900	5°	341,7 387,9	-
350	440	378	C30 C40	6,4 7,0	5	900	4°	424,6 387,9	-
400	495	429	C30 C40	6,5 7,7	5	900	4°	491,3 558,4	-
500	600	532	C30 C40	7,4 9,3	5	900	4°	680,7 812,7	-
600	709	635	C30 C40	8,6 10,8	5	900	4°	923,2 1106,1	-
700	820	738	C25 C30	8,8 9,8	6	900	4°	1135,8 1232,9	-
800	931	842	C25 C30	9,6 11,0	6	900	4°	1399,6 1554,9	-
900	1039	945	C25 C30	10,6 12,2	6	900	4°	1711,9 1911,4	-
1000	1148	1048	C25 C30	11,6 13,4	6	900	4°	2057,9 2306,9	-
1100	1255	1152	C25	12,6	6	900	3°	2382,1	-
1200	1360	1255	C25	13,6	6	900	3°	2782	-
1400	1590	1462	C25	15,7	9	900	2°	-	4728
1500	1695	1565	C25	16,7	9	900	2°	-	5484
1600	1805	1668	C25	17,7	9	900	2°	--	6181
1800	2025	1875	C25	19,7	9	900	2°	-	7743
2000	2245	2082	C25	21,8	9	900	2°	-	7743

DUCTILE IRON PIPES

WATER SEWAGE SYSTEM



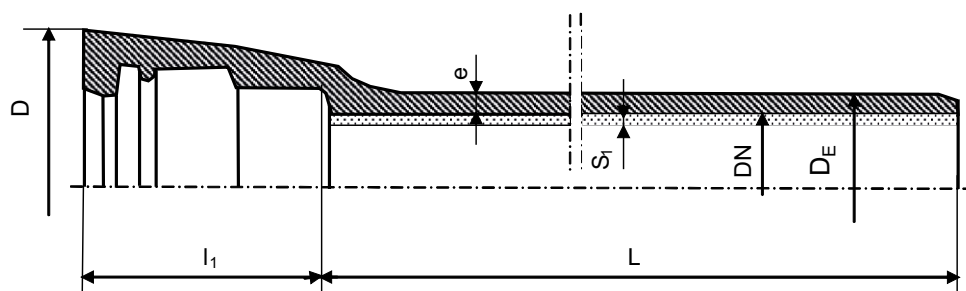
Applicability

- for gravity and pressure transport of sewage and surface water
- allowed for special applications at higher temperatures

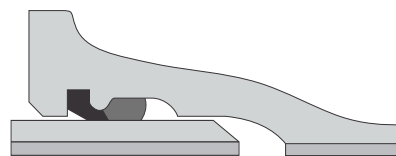
TECHNICAL FEATURES

- The nominal length of the pipes L: 6 m, length tolerance: ± 10 mm, the ability to cut pipes at a minimum of 2/3 of the length counting from the bare end of the pipe.
- The external protective coating of the pipe surface: active layer of zinc-aluminum alloy (Zn-Al) in the recommended ratio of 85%(Zn) - 15%(Al), applied in an electric arc, with a minimum weight of 400 g/m², and a finishing layer of epoxy varnish with a thickness of min. 70 μ m or an active layer of 99%(Zn) arc-applied zinc, with a minimum weight of 200 g/m², and a finishing layer of epoxy varnish with a thickness of min. 70 μ m
- Internal coating of pipes; cement mortar based on aluminous cement, applied by centrifugal method, resistance to - medium pH 3-13. Temperature resistance of pipes more than 250 °C
- Interior of the flare: paint with high zinc content + epoxy coating
- Connection in the flare to a gasket made of NBR rubber or Viton / FKM according to PN-EN -681-1





T-TYPE CONNECTION

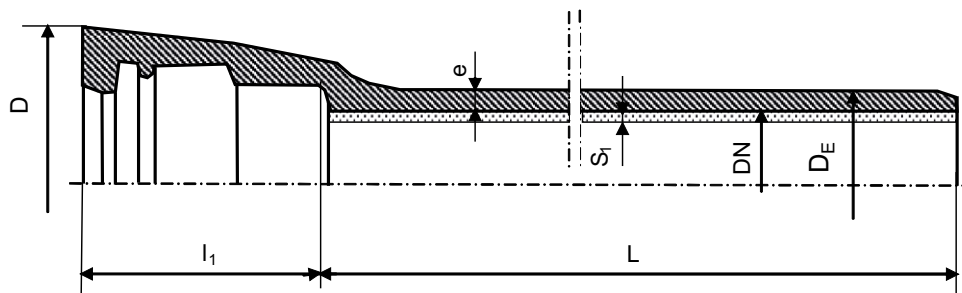


Diameter rated DN	Flare diameter D	Outer diam. DE	Permissible deviation	Nominal thickness of e-wall	Permissible deviation	Minimum circumferential stiffness, S kN/m ²	Pipe mass (6000/kg)
80	145	98	+1/-2,7	4,8	-1,3	1270	87
100	165	118	+1/-2,8	4,8	-1,3	710	107
125	195	144	+1/-2,8	4,8	-1,3	380	135
150	220	170	+1/-2,9	4,8	-1,3	230	163
200	275	222	+1/-3,0	4,9	-1,3	105	219
250	325	274	+1/-3,1	5,3	-1,6	66	286
300	385	326	+1/-3,3	5,6	-1,6	47	360
350	435	378	+1/-3,4	6,0	-1,7	38	476
400	490	429	+1/-3,5	6,3	-1,7	31	566
500	600	532	+1/-3,8	7,0	-1,8	22	775
600	709	635	+1/-4,0	7,7	-1,9	18	1009
700	820	738	+1/-4,3	9,6	-2,0	23	1301
800	931	842	+1/-4,5	10,4	-2,1	20	1594
900	1039	945	+1/-4,8	11,2	-2,2	18	1917
1000	1148	1048	+1/-5,0	12,0	-2,3	16	2269

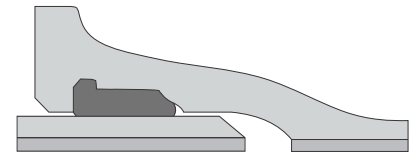
DUCTILE IRON PIPES

WATER SEWAGE SYSTEM

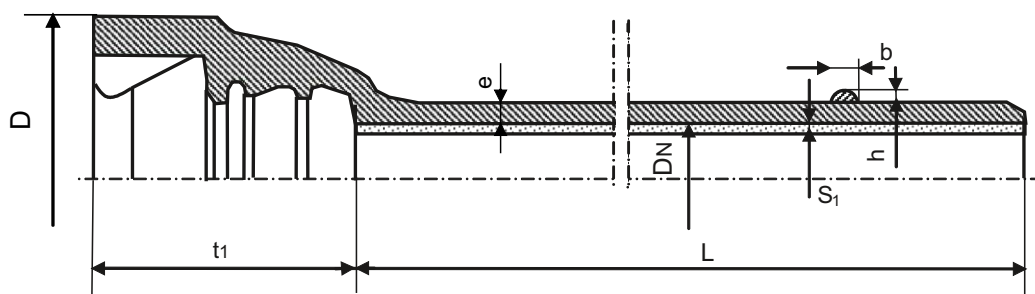
NOT LOCKED CONNECTIONS
ACC. TO PN-EN 598



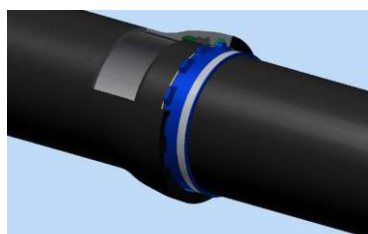
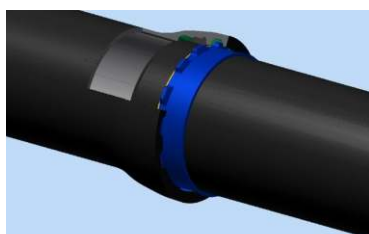
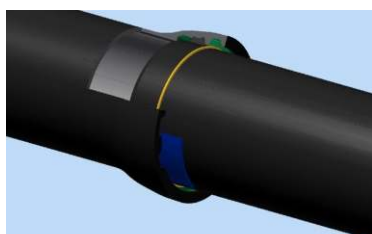
STANDARD-TYPE
CONNECTION



Diameter rated DN	Flare diameter D	Outer diam. DE	Permissible deviation	Nominal thickness of e-wall	Permissible deviation	Minimum circumferential stiffness, S kN/m ²	Pipe mass (6000/kg)	Pipe mass (8015/kg)
80	150	98	+1/-2,7	4,8	-1,3	1270	87	-
100	170	118	+1/-2,8	4,8	-1,3	710	107	-
125	195	144	+1/-2,8	4,8	-1,3	380	135	-
150	225	170	+1/-2,9	4,8	-1,3	230	163	-
200	275	222	+1/-3,0	4,9	-1,3	105	219	-
250	330	274	+1/-3,1	5,3	-1,6	66	286	-
300	390	326	+1/-3,3	5,6	-1,6	47	360	-
350	440	378	+1/-3,4	6,0	-1,7	38	476	-
400	495	429	+1/-3,5	6,3	-1,7	31	566	-
500	600	532	+1/-3,8	7,0	-1,8	22	775	-
600	709	635	+1/-4,0	7,7	-1,9	18	1009	-
700	820	738	+1/-4,3	9,6	-2,0	23	1301	-
800	931	842	+1/-4,5	10,4	-2,1	20	1594	-
900	1039	945	+1/-4,8	11,2	-2,2	18	1917	-
1000	1148	1048	+1/-5,0	12,0	-2,3	16	2269	-
1100	1255	1152	+1/-6,0	14,4	-2,4	22	2651	-
1200	1360	1255	+1/-6,0	15,3	-2,5	20	3060	-
1400	1590	1462	+1/-6,6	17,1	-2,7	18	3915	5125,0
1500	1695	1565	+1/-7,0	17,9	-2,8	17	4393	5755,0
1600	1805	1668	+1/-7,4	18,9	-2,9	17	4920	6433,8
1800	2025	1875	+1/-8,2	20,7	-3,1	16	6182	8094,7
2000	2245	2082	+1/-9,0	22,5	-3,3	16	7436	9727,7



Diameter rated DN	Flare diameter D	Outer diam. DE	Permissible deviation	Nominal thickness of e-wall	Permissible deviation	Minimum circumferential stiffness, S kN/m ²	t1	a	b	h	Angular deviation	Segments	Length L
80	161	98	+1/-2,7	4,8	-1,3	1270	130	82	8	6	2,5°	3	6000
100	186	118	+1/-2,8	4,8	-1,3	710	140	88	8	6	2,5°	3	6000
125	216,5	144	+1/-2,8	4,8	-1,3	380	147	93	8	6	2,5°	4	6000
150	235	170	+1/-2,9	4,8	-1,3	230	152	95	8	6	2,5°	4	6000
200	287	222	+1/-3,0	4,9	-1,3	105	155	95	8	6	2,5°	5	6000
250	356,1	274	+1/-3,1	5,3	-1,6	66	162	97	8	6	2,5°	5	6000
300	405,8	326	+1/-3,3	5,6	-1,6	47	168	08	8	6	2,5°	6	6000
400	518	429	+1/-3,5	6,3	-1,7	31	170	07	8	6	2°	7	6000
500	623	532	+1/-3,8	7,0	-1,8	22	175	10	8	6	2°	8	6000
600	728	635	+1/-4,0	7,7	-1,9	18	185	20	8	6	2°	8	6000
700	835,6	738	+1/-4,3	9,6	-2,0	23	212	30	8	6	1,5°	10	6000
800	950	842	+1/-4,5	10,4	-2,1	20	220	35	8	6	1,5°	10	6000
900	1053	945	+1/-4,8	11,2	-2,2	18	225	35	8	6	1,5°	13	6000
1000	1170	1048	+1/-5,0	12,0	-2,3	16	243	47	8	6	1,5°	14	6000
1100	1265	1152	+1/-6,0	14,4	-2,4	22	237	52	8	6	1,5°	15	6000
1200	1375	1255	+1/-6,0	15,3	-2,5	20	239	154	8	6	1,5°	16	6000
1400	1595	1462	+1/-6,6	17,1	-2,7	18	324	230	8	6	1,5°	18	8015
1500	1698	1565	+1/-7,0	17,9	-2,8	17	336	238	8	6	0,75°	20	8015
1600	1840	1668	+1/-7,4	18,9	-2,9	17	360	247	11	6	0,75°	21	8015
1800	2060	1875	+1/-8,2	20,7	-3,1	16	376	250	11	6	0,75°	25	8015
2000	2280	2082	+1/-9,0	22,5	-3,3	16	403	250	11	6	0,75°	30	8015



FITTINGS MADE OF DUCT CAST IRON



FITTINGS FOR THE ASSEMBLY OF WATERLINE SYSTEMS ACCORDING TO EN-545 and EN-598

Ductile iron pipes, fittings and equipment and their joints for water pipelines. Requirements and examination methods Corrosion protection

- Exterior surface - Epoxy coating with a minimum thickness of 250 μm or bitumen coating with a minimum thickness of 120 μm
- Internal surface - Epoxy coating with a minimum thickness of 250 μm or cement coating by blast furnace cement method using potable water with a coating thickness of 4mm to 9mm
- Class of fittings with flange connections - PN10 and PN16



FLARE CONNECTIONS



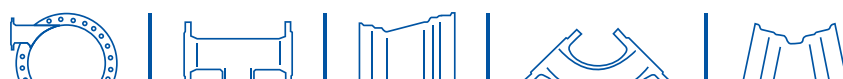
FLARE AND FLANGE CONNECTIONS



FLARE CONNECTIONS



INTERLOCKED CONNECTIONS



T-TYPE

TYPES OF INTERLOCKED CONNECTIONS

SK TYPE

1. Cleaning the bare end



2. Checking the installation markings



3. Greasing bare end



4. Clearing the flare



5. Gasket installation



6. Greasing the gasket



7. Assembled connection



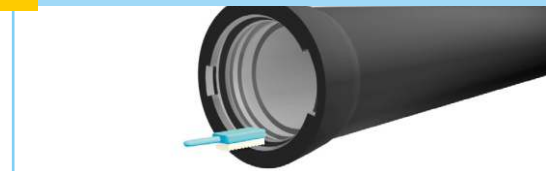
1. Cleaning the bare end



2. Greasing bare end



3. Clearing the flare



4. Gasket installation



5. Greasing the gasket



6. Inserting locking pins



7. Binding the locking pins using band



CERTYFICATES



NARODOWY INSTYTUT ZDROWIA PUBLICZNEGO PZH
— Państwowy Instytut Badawczy
National Institute of Public Health NIH — National Research Institute

ATEST HIGIENICZNY B.BK.60110.1154.2022
HYGIENIC CERTIFICATE ORIGINAL

NATIONAL INSTITUTE OF PUBLIC HEALTH NIH — NATIONAL RESEARCH INSTITUTE

Wzrost / product: Rury i kształki z żelaza szwedzkiego w systemach połączeń T-Type, Standard-Type, T-LOCK, SK-Type

Zawleczony / containing: żelazo szwedzkie z powłoką epoksydową, żelazo szwedzkie z okładziną cementową, uszczelnieniem z EPDM

Przeznaczony do / destined: budownictwo i naprawy rur wodociągowych do przesyłania wody przekaźnikowej do spożycia przez ludzi i wody na potrzeby gospodarki

Wymieniony wzrost produktu odpowiada wymaganiom higienicznym przy spełnieniu następujących warunków:
(The above named product is acceptable according to hygienic criteria with the following conditions:
Instalacja wodociągowa do przesyłania wody przekaźnikowej do spożycia przez ludzi musi być wykonana z wyłączeniem
należy przetrzymać wodę w pojemniku zapasowym przez co najmniej 24 godziny przed użyciem
Attest higieniczny nie odnosi się do parametrów technicznych wyrostu The hygienic certificate does not apply to technical
parameters of the product.

Wydawca / producer: Samsun Makina Sanayi A.Ş.
Cankaya, Ankara, Turcja
no. 14 Kuleli Sokak
Niniejszy dokument wydano na wniosek / This certificate issued for:
Cankaya Sokak No. 14
01-641 Pasa
01-641 Pasa
01-641 Pasa

Attest może być anulowany lub unieważniony w przypadku:
produktu nie spełniającego wymagań higienicznych
modyfikacji struktury, niniejszy atest traci ważność
po 2028.08.19 lub w przypadku zmian w technologii
lub w technologii wyrobu.

Data wydania atestu higienicznego: 19 sierpnia 2022
The date of issue of the certificate: 19th August, 2022

Attest jest weryfikowany przez Instytut Higieniczny / The certificate is verified by the Hygienic Institute:
Zakład Badań i Rozwoju Higieny (ZBRH) - Zakład Higieny i Sanitacji (ZHS) - Zakład Higieny i Sanitacji (ZHS)
00-725 Warszawa, ul. Chałubińskiego 24 (00-725 Warszawa, ul. Chałubińskiego 24)
e-mail: wroblewski@pzh.gov.pl tel: +48 22 54 21 534, +48 22 54 21 540

ACCREDIA
No. 01/010

ICIM

Certificazione di Prodotto
Product Certification

Certificato N. Certificate No. **003CO/4**

ALLAZIENDA / TO THE FIRM

SAMSUN MAKINA SANAYI A.Ş.
Organize Sanayi Bölgesi, Yasar Dogu Cad. no. 33
55330 KUTLUKENT, SAMSUN (TURKEY)

UNITA OPERATIVA / OPERATIVE UNIT

SAMSUN MAKINA SANAYI A.Ş.
Organize Sanayi Bölgesi, Yasar Dogu Cad. no. 33
55330 KUTLUKENT, SAMSUN (TURKEY)

PER I SEGUENTI PRODOTTI / FOR THE FOLLOWING PRODUCTS

TUBI, RACCORDI E ACCESSORI DI GHISA SFERODALE E LORO ASSEMBLAGGI
PER CONDOTTE D'ACQUA
DUCTILE IRON PIPES, FITTINGS, ACCESSORIES AND THEIR
JOINTS FOR WATER PIPELINES

CON DENOMINAZIONE COMMERCIALE / WITH TRADE NAMES

Giunti elastici antistancamento T-TYPE
Restained flexible joint T-TYPE

Caratteristiche: vedi Allegato / Characteristics: see Annex

CONFORMEMENTE AL DOCUMENTO NORMATIVO ICIM / IN COMPLIANCE WITH ICIM NORMATIVE DOCUMENT

ICIM 0080C5

CONFORMEMENTE ALLA NORMA / IN COMPLIANCE WITH THE STANDARDS

UNI EN 545-07 - ISO 2531-08

Il presente Certificato è in formato elettronico ed è accoppiato al modulo Allegato / This Certificate is valid only with the related Annex

PRIMA EMANAZIONE / FIRST ISSUE: 03/12/2008

REINNOVAZIONE / RENEWAL: 03/12/2020

DATA DI SCADENZA / EXPIRATION DATE: 02/12/2023

ICIM S.p.A. - PIAZZA DELL'ENTRATA, 10 - 20090 BASSO (BERGAMO, IT)

ACCREDIA
No. 01/010

ICIM

Certificazione di Prodotto
Product Certification

Certificato N. Certificate No. **007CO/4**

ALLAZIENDA / TO THE FIRM

SAMSUN MAKINA SANAYI A.Ş.
Organize Sanayi Bölgesi, Yasar Dogu Cad. no. 41
55330 KUTLUKENT, SAMSUN (TURKEY)

UNITA OPERATIVA / OPERATIVE UNIT

SAMSUN MAKINA SANAYI A.Ş.
Organize Sanayi Bölgesi, Yasar Dogu Cad. no. 41
55330 KUTLUKENT, SAMSUN (TURKEY)

PER I SEGUENTI PRODOTTI / FOR THE FOLLOWING PRODUCTS

TUBI, RACCORDI E ACCESSORI DI GHISA SFERODALE E LORO ASSEMBLAGGI
PER CONDOTTE D'ACQUA
DUCTILE IRON PIPES, FITTINGS, ACCESSORIES AND THEIR
JOINTS FOR SEWERAGE APPLICATIONS

CON DENOMINAZIONE COMMERCIALE / WITH TRADE NAMES

Giunti elastici automatici STANDARD-TYPE
Push-in flexible joint STANDARD-TYPE

Caratteristiche: vedi Allegato / Characteristics: see Annex

CONFORMEMENTE AL DOCUMENTO NORMATIVO ICIM / IN COMPLIANCE WITH ICIM NORMATIVE DOCUMENT

ICIM 0080C5

CONFORMEMENTE ALLA NORMA / IN COMPLIANCE WITH THE STANDARDS

UNI EN 588-09 - ISO 7186-11

Il presente Certificato è in formato elettronico ed è accoppiato al modulo Allegato / This Certificate is valid only with the related Annex

PRIMA EMANAZIONE / FIRST ISSUE: 01/06/2011

REINNOVAZIONE / RENEWAL: 01/06/2023

DATA DI SCADENZA / EXPIRATION DATE: 31/07/2026

ICIM S.p.A. - PIAZZA DELL'ENTRATA, 10 - 20090 BASSO (BERGAMO, IT)

ACCREDIA
No. 01/010

ICIM

Certificazione di Prodotto
Product Certification

Certificato N. Certificate No. **011CO/3**

ALLAZIENDA / TO THE FIRM

SAMSUN MAKINA SANAYI A.Ş.
Organize Sanayi Bölgesi, Yasar Dogu Cad. no. 41
55330 KUTLUKENT, SAMSUN (TURKEY)

UNITA OPERATIVA / OPERATIVE UNIT

SAMSUN MAKINA SANAYI A.Ş.
Organize Sanayi Bölgesi, Yasar Dogu Cad. no. 41
55330 KUTLUKENT, SAMSUN (TURKEY)

PER I SEGUENTI PRODOTTI / FOR THE FOLLOWING PRODUCTS

TUBI, RACCORDI E ACCESSORI DI GHISA SFERODALE E LORO ASSEMBLAGGI
PER CONDOTTE D'ACQUA
DUCTILE IRON PIPES, FITTINGS, ACCESSORIES AND THEIR
JOINTS FOR WATER PIPELINES

CON DENOMINAZIONE COMMERCIALE / WITH TRADE NAMES

Giunti elastici antistancamento tipo "WINKERED"
Restained flexible joint type "WINKERED"

Caratteristiche: vedi Allegato / Characteristics: see Annex

CONFORMEMENTE AL DOCUMENTO NORMATIVO ICIM / IN COMPLIANCE WITH ICIM NORMATIVE DOCUMENT

ICIM 0080C5

CONFORMEMENTE ALLA NORMA / IN COMPLIANCE WITH THE STANDARDS

UNI EN 545-10 - UNI EN 588-09 - ISO 2531-08 - ISO 7186-11

Il presente Certificato è in formato elettronico ed è accoppiato al modulo Allegato / This Certificate is valid only with the related Annex

PRIMA EMANAZIONE / FIRST ISSUE: 29/01/2014

REINNOVAZIONE / RENEWAL: 07/03/2023

DATA DI SCADENZA / EXPIRATION DATE: 28/01/2026

ICIM S.p.A. - PIAZZA DELL'ENTRATA, 10 - 20090 BASSO (BERGAMO, IT)

ACCREDIA
No. 01/010

ICIM

Certificazione di Prodotto
Product Certification

Certificato N. Certificate No. **006CO/4**

ALLAZIENDA / TO THE FIRM

SAMSUN MAKINA SANAYI A.Ş.
Kuleli Sokak no. 14 Cankaya, ANKARA (TURKEY)

UNITA OPERATIVA / OPERATIVE UNIT

SAMSUN MAKINA SANAYI A.Ş.
Organize Sanayi Bölgesi, Yasar Dogu Cad. no. 41 - KUTLUKENT, SAMSUN (TURKEY)

PER I SEGUENTI PRODOTTI / FOR THE FOLLOWING PRODUCTS

TUBI, RACCORDI E ACCESSORI DI GHISA SFERODALE E LORO ASSEMBLAGGI
PER CONDOTTE D'ACQUA
DUCTILE IRON PIPES, FITTINGS, ACCESSORIES AND THEIR
JOINTS FOR WATER PIPELINES

CON DENOMINAZIONE COMMERCIALE / WITH TRADE NAMES

Giunti elastici automatici T-TYPE
Push-in flexible joint T-TYPE

Caratteristiche: vedi Allegato / Characteristics: see Annex

CONFORMEMENTE AL DOCUMENTO NORMATIVO ICIM / IN COMPLIANCE WITH ICIM NORMATIVE DOCUMENT

ICIM 0080C5

CONFORMEMENTE ALLA NORMA / IN COMPLIANCE WITH THE STANDARDS

UNI EN 545-10 - ISO 2531-08

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PRIMA EMANAZIONE / FIRST ISSUE: 15/03/2011

REINNOVAZIONE / RENEWAL: 15/03/2023

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ICIM S.p.A. - PIAZZA DELL'ENTRATA, 10 - 20090 BASSO (BERGAMO, IT)

ACCREDIA
No. 01/010

ICIM

Certificazione di Prodotto
Product Certification

Certificato N. Certificate No. **005CO/4**

ALLAZIENDA / TO THE FIRM

SAMSUN MAKINA SANAYI A.Ş.
Kuleli Sokak no. 14 Cankaya, ANKARA (TURKEY)

UNITA OPERATIVA / OPERATIVE UNIT

SAMSUN MAKINA SANAYI A.Ş.
Organize Sanayi Bölgesi, Yasar Dogu Cad. no. 41 - KUTLUKENT, SAMSUN (TURKEY)

PER I SEGUENTI PRODOTTI / FOR THE FOLLOWING PRODUCTS

TUBI, RACCORDI E ACCESSORI DI GHISA SFERODALE E LORO ASSEMBLAGGI
PER CONDOTTE D'ACQUA
DUCTILE IRON PIPES, FITTINGS, ACCESSORIES AND THEIR
JOINTS FOR WATER PIPELINES

CON DENOMINAZIONE COMMERCIALE / WITH TRADE NAMES

Giunti elastici automatici STANDARD-TYPE
Push-in flexible joint STANDARD-TYPE

Caratteristiche: vedi Allegato / Characteristics: see Annex

CONFORMEMENTE AL DOCUMENTO NORMATIVO ICIM / IN COMPLIANCE WITH ICIM NORMATIVE DOCUMENT

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PRIMA EMANAZIONE / FIRST ISSUE: 15/03/2011

REINNOVAZIONE / RENEWAL: 15/03/2023

DATA DI SCADENZA / EXPIRATION DATE: 14/03/2026

ICIM S.p.A. - PIAZZA DELL'ENTRATA, 10 - 20090 BASSO (BERGAMO, IT)

ACCREDIA
No. 01/010

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Product Certification

Certificato N. Certificate No. **001CO/5**

ALLAZIENDA / TO THE FIRM

SAMSUN MAKINA SANAYI A.Ş.
Kuleli Sokak no. 14 Cankaya, ANKARA (TURKEY)

UNITA OPERATIVA / OPERATIVE UNIT

SAMSUN MAKINA SANAYI A.Ş.
Organize Sanayi Bölgesi, Yasar Dogu Cad. no. 41 - KUTLUKENT, SAMSUN (TURKEY)

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PER CONDOTTE D'ACQUA
DUCTILE IRON PIPES, FITTINGS, ACCESSORIES AND THEIR
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CON DENOMINAZIONE COMMERCIALE / WITH TRADE NAMES

Giunti elastici automatici STANDARD-TYPE
Push-in flexible joint STANDARD-TYPE

Caratteristiche: vedi Allegato / Characteristics: see Annex

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UNI EN 545-07 - ISO 2531-08

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REINNOVAZIONE / RENEWAL: 12/03/2023

DATA DI SCADENZA / EXPIRATION DATE: 11/03/2026

ICIM S.p.A. - PIAZZA DELL'ENTRATA, 10 - 20090 BASSO (BERGAMO, IT)

ACCREDIA
No. 01/010

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Product Certification

Certificato N. Certificate No. **002CO/5**

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SAMSUN MAKINA SANAYI A.Ş.
Kuleli Sokak no. 14 Cankaya, ANKARA (TURKEY)

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CON DENOMINAZIONE COMMERCIALE / WITH TRADE NAMES

Giunti elastici automatici T-TYPE
Push-in flexible joint T-TYPE

Caratteristiche: vedi Allegato / Characteristics: see Annex

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PRIMA EMANAZIONE / FIRST ISSUE: 12/03/2008

REINNOVAZIONE / RENEWAL: 12/03/2023

DATA DI SCADENZA / EXPIRATION DATE: 11/03/2026

ICIM S.p.A. - PIAZZA DELL'ENTRATA, 10 - 20090 BASSO (BERGAMO, IT)

TRANSPORTATION REQUIREMENTS

During transportation, pipes should be protected from damage by parts of the means of transportation such as bolts, chains, etc. / During transportation, the pipes should be permanently protected against displacement
/ For unloading, use lifting equipment with appropriate lifting capacity.

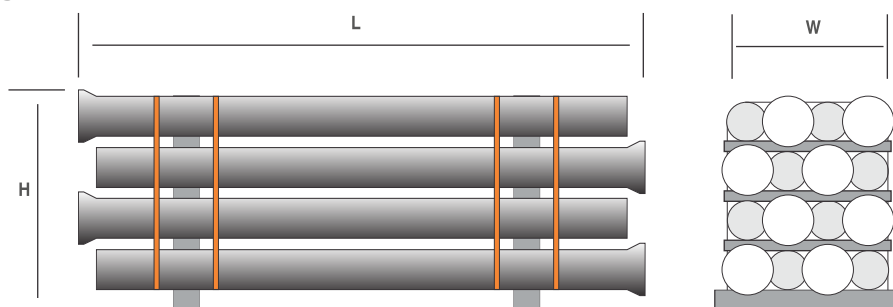
PIPES STORAGE

The storage area should be level, without corrosive objects on it. The storage area should be located on a flat area with stable ground. Pipes should not be laid directly on the ground.

Before storage, you need to check the pipes for the presence of damage to the inner or outer shell, If found, they need to be secured. / Time of horizontal storage of pipes as far as possible must be minimized. In other cases, the pipes must be protected from sunlight and mechanical and atmospheric influences. / When moving the pipes, the crane hook must be protected (e.g., with a rubber cover), or handling should be done with belts to avoid damage to the inner and outer coating. / Parcels can be stacked by separating them with spacers.

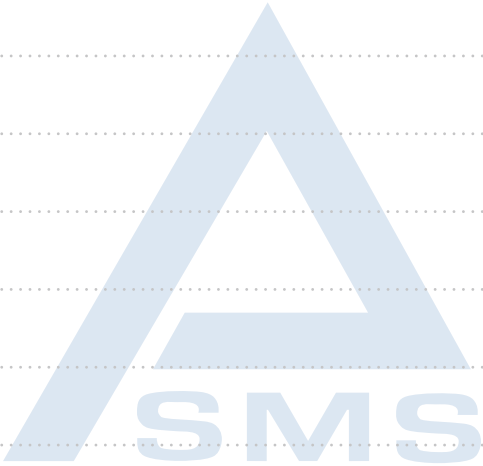
DN	Set configuration (WxH)	Pipes within set	Length L	Height H	Width W	Layers	Agreed weight kg
80	4x6	24	6200	680	520	4	1920
100	4x5	20	6200	680	680	4	1900
150	4x4	16	6200	700	860	4	2240
200	3x3	9	6300	750	890	3	1836
250	2x4	8	6300	1115	730	2	2100
300	2x3	6	6300	1066	830	2	2334

Wedge block weights are not included



Stacking height

DN	Number	DN	Number	DN	Number	DN	Number
80	18	300	9	700	4	1500	2
100	16	350	8	800	4	1600	2
125	14	400	7	900	3	1800	2
150	12	450	6	1000	3	2000	1
200	11	500	5	1200	3	2200	1
250	10	600	4	1400	3	-	-





SAMSUN MAKİNA SANAYİ A.Ş.



Conecto Profiles Sp. z o.o.



ul. Przemysłowa 39, 61-541 Poznań



office@samsun-makina.com



+48 696 653 867



www.samsun-makina.com

