



KONECKIE
ZAKŁADY
ODLEWNICZE S.A.

*SML DKI
System*

Product Catalogue

SML DKI System



Dear Customers,

Koneckie Zakłady Odlewnicze S.A. has been specializing in manufacturing of grey cast iron sewage pipes for more than fifty years. In 1970s and 1980s, **KZO S.A.** was one of the major manufacturers of the socket pipe systems in Europe. Currently, this type of system is used less frequently, but it is still available in our range of products. More information may be found in our catalogue **Socket Cast Iron Pipe System**.

At the turn of 20th and 21st century, the popularity of the **SML** system - socketless cast iron pipes and fittings - began to increase. Following the market trends, **KZO** introduced the **SML DKI** system to its offer. System complies with the requirements of the EN 877 standard for socketless pipes and fittings. The system is continuously improved and developed.

A long-term use of grey cast iron sewage pipes and fittings is an evidence of their superiority over other materials. Durability and lastingness of cast iron pipes, functionality of fittings and reliability of couplings are the features that fully meet the high quality requirements of the modern building industry. Moreover, the **SML** system distinguishes itself with excellent fire and noise protection parameters. As a result, it is used in rainwater and waste systems all around the world. More information about the advantages of the **SML** system is found on page 3 of this catalogue.

The products included in the **SML DKI** system meet the highest technical requirements as well as safety standards and provisions applicable in housing, industrial and public utility buildings.

With the **SML DKI** system, our Customers receive top quality product, professional technical help provided by our specialists and short delivery times.

Our priorities:

- ✓ Highest quality of products
- ✓ Service/Advisory
- ✓ Logistics/Short delivery times

KZO S.A. Management Board

■ REQUIREMENTS ACCORDING TO THE EN 877 STANDARD

Density:

ca. 7.2 kg/dm³ (71.5 kN/m³)

Tensile strength:

≥ 150 MPa for fittings

≥ 200 MPa for pipes

Compressive strength:

ca. 3- 4 times of the tensile strength value

Shearing strength:

ca. 1.1 to 1.6 times of the tensile strength value

Crushing strength of a ring:

≥ 350 MPa

Modulus of elasticity:

8 • 10⁴ do 12 • 10⁴ N/mm²

Poisson's ratio:

~(0,3)

Thermal resistance:

equal to the A2 class of reaction to fire acc. to PN-EN 13501-1 + A1:2010 - non-combustible

Coefficient of length expansion:

only 0.0105 mm/mK (between 0° and 100°C), comparable with the value for concrete; cementing possible

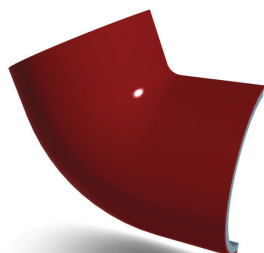
Chemical resistance:

highly resistant to domestic sewage within the range between pH2 and pH12

Thermal conduction coefficient:

50-60 W/mK (at 20°C)

■ ADVANTAGES OF THE SML DKI SYSTEM



Aesthetical look that lasts:

Surfaces coated with epoxy paints.



Low level of acoustic noise:

Products meet requirements of the PN-87/B-02151/02 on permitted noise level inside buildings.



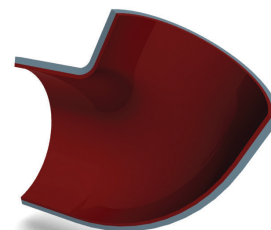
Low thermal expansion:

Not susceptible to temperature changes. Thermal expansion coefficient similar to a concrete, so the pipes may be cemented.



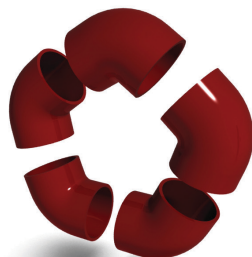
Resistance to fire:

Reaction to fire:
- cast iron - A1 class,
- installation - A2-s1 class (non-combustible).



High quality of internal surfaces:

Surfaces coated with epoxy-paint.



The material is 100% recyclable:

The scrap material may be re-melted in metallurgical furnace.



Anti-corrosion coatings:

Long-lasting protection against corrosion.



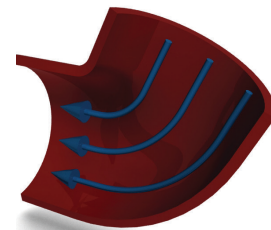
Easy installation:

High dimension precision of pipes and fittings. Special system of couplings.



The highest durability:

Meets all requirements of the EN 877: 2004/A1/AC standard.

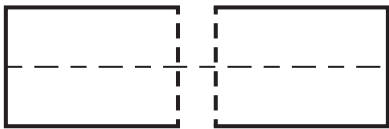


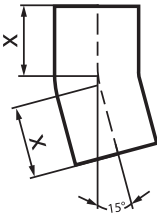
Excellent flow:

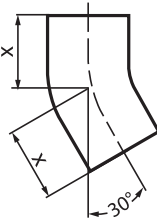
Smooth inner surfaces ensure excellent flow of waste water.

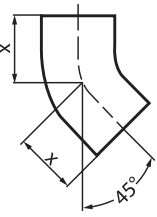
■ CONSTRUCTION DIMENSIONS

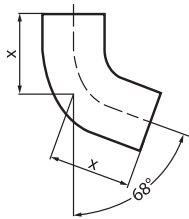
Nominal diameter DN	External diameter		Thickness of walls		Length of seal area: t	Pipe weight		Surface m ² /m
	DN	Tolerance	Nominal value	Minimal value		Empty ca. (kg/m)	Filled ca. (kg/m)	
50	58	+2 -1	3,5	3,0	30	4,3	6,3	0,18
70	70	+2 -1	3,5	3,0	35	5,9	9,8	0,25
100	110	+2 -1	3,5	3,0	40	8,4	16,3	0,35
125	135	+2 -2	4,0	3,5	45	11,8	24,1	0,42
150	160	+2 -2	4,0	3,5	50	14,3	32,0	0,50
200	210	+2,5 -2,5	5,0	4,0	60	23,1	54,6	0,65

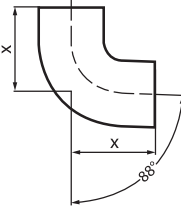
Pipes	DN	Index no	Kg/piece	L	Packing unit
	50	960-0001-001	13,0	3000	70
	70	960-0002-001	17,7	3000	50
	100	960-0003-001	25,2	3000	38
	125	960-0004-001	35,4	3000	23
	150	960-0005-001	42,2	3000	20
	200	960-0006-001	69,3	3000	10

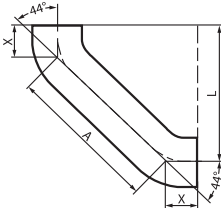
Bends 15°	DN	Index no	Kg/piece	X	Packing unit
	50	011-1100-001	0,4	40	1500
	70	011-1101-001	0,6	45	800
	100	011-1102-000	1,0	50	500
	150	011-1105-001	2,5	65	180
	200	960-1101-001	4,6	80	90

Bends 30°	DN	Index no	Kg/piece	X	Packing unit
	50	011-1110-001	0,5	45	1500
	70	011-1111-001	0,7	50	800
	100	011-1112-001	1,3	60	400
	150	011-1114-001	3,0	80	140
	200	960-1111-001	5,4	95	70

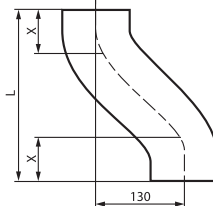
Bends 45°	DN	Index no	Kg/piece	X	Packing unit
	50	011-1120-001	0,5	50	1500
	70	011-1121-001	0,9	60	800
	100	011-1122-001	1,6	70	350
	125	011-1123-001	2,3	80	210
	150	011-1124-001	3,5	90	130
	200	011-1125-001	6,2	110	60

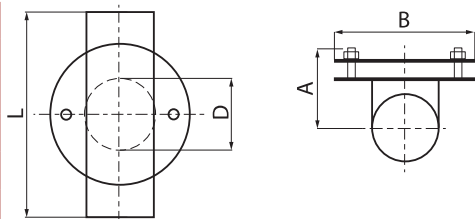
Bends 68°	DN	Index no	Kg/piece	X	Packing unit
	50	011-1130-001	0,7	65	1400
	70	011-1131-001	1,1	75	600
	100	011-1132-001	1,9	90	250
	125	011-1133-001	2,9	105	160
	150	011-1134-001	4,3	120	80
	200	960-1131-001	7,7	145	50

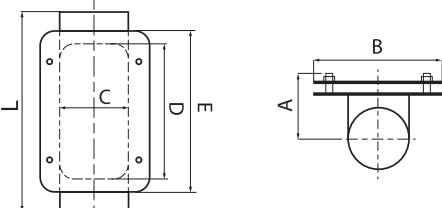
Bends 88°	DN	Index no	Kg/piece	X	Packing unit
	50	011-1140-000	0,7	75	1400
	70	011-1141-000	1,2	90	600
	100	011-1142-000	2,1	110	250
	125	960-1141-001	3,2	125	120
	150	011-1144-000	4,9	145	70
	200	011-1145-000	8,8	180	60

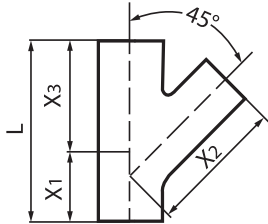
Flow-calming Bend 88° with 250 mm steadying distance	DN	Index no	Kg/piece	X	L	A	Packing unit
	100	011-1801-001	4,8	70	291	312	112

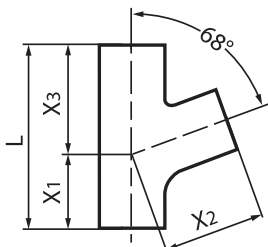
Plugs	DN	Index no	Kg/piece	L	Packing unit
	50	011-1500-001	0,28	30	3000
	70	011-1510-001	0,45	35	2000
	100	011-1520-001	0,9	40	1000
	125	960-1500-001	1,1	45	600
	150	011-1540-001	1,9	50	400
	200	011-1550-001	3,1	60	200

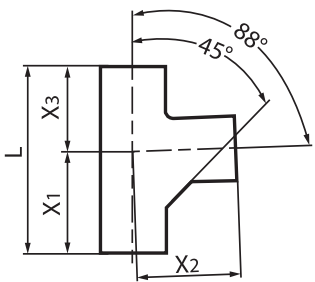
S bends 130 mm	DN	Index no	Kg/piece	X	L	Packing unit
	100	011-1712-001	3,4	70	270	140
	150	011-1713-001	6,9	90	310	60

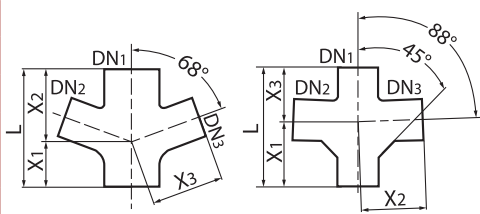
Inspection pipes round	DN	Index no	Kg/piece	A	B	D	L	Packing unit
	50	960-1200-001	2,3	59	105	53	190	350
	70	011-1210-001	2,9	69	125	73	210	250
	100	011-1220-001	5,5	84	159	104	260	150

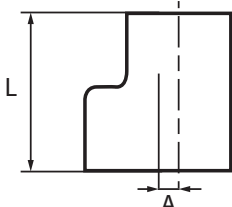
Inspection pipes rectangular	DN	Index no	Kg/piece	A	B	C	D	E	L	Packing unit
	125	960-1310-001	10,3	101	190	125	225	255	370	48
	150	011-1320-001	14,5	112	215	150	250	280	395	40
	200	011-1330-001	22,0	137	262	200	300	330	465	24

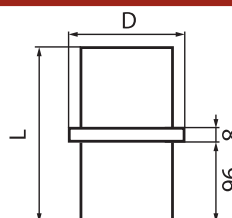
Branches 45°	DN	Index no	Kg/ piece	X1	X2	X3	L	Packing unit
	50 x 50	011-1000-001	1,4	50	135	135	185	700
	70 x 50	011-1003-001	1,6	40	150	150	190	500
	70 x 70	011-1006-001	2,3	55	160	160	215	300
	100 x 50	011-1009-001	2,5	35	165	165	200	230
	100 x 70	011-1012-001	3,3	50	185	185	235	180
	100 x 100	011-1015-001	4,2	70	205	205	275	140
	125 x 100	011-1022-001	5,2	60	220	220	280	90
	125 x 125	011-1023-001	6,4	80	240	240	320	50
	150 x 70	011-1031-001	5,6	30	215	215	245	80
	150 x 100	011-1033-001	6,8	55	240	240	295	70
	150 x 150	011-1039-001	9,2	90	265	265	355	45
	200 x 100	011-1043-001	10,0	40	265	265	305	18
	200 x 150	011-1049-001	13,3	75	300	300	375	15
	200 x 200	011-1052-001	17,2	115	340	340	455	10

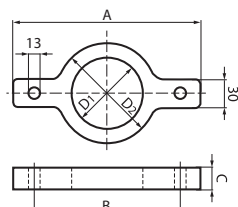
Branches 68°	DN	Index no	Kg/ piece	X1	X2	X3	L	Packing unit
	70 x 50	011-1004-001	1,3	55	90	90	145	500
	70 x 70	011-1007-001	1,7	70	100	100	170	300
	100 x 50	011-1010-001	1,9	55	110	110	155	230
	100 x 70	011-1013-001	2,4	70	120	110	180	180
	100 x 100	011-1016-001	2,9	85	130	130	215	140
	150 x 100	011-1034-001	5,2	85	155	150	235	70
	150 x 150	011-1040-001	7,1	115	180	180	295	45

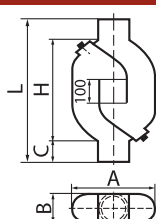
Branches 88°	DN	Index no	Kg/ piece	X1	X2	X3	L	Packing unit
	50 x 50	011-1002-001	0,9	79	80	66	145	700
	70 x 50	011-1005-001	1,4	83	90	72	155	500
	70 x 70	011-1008-001	1,7	97	95	83	180	300
	100 x 50	011-1011-001	2,1	94	105	76	170	230
	100 x 70	011-1014-001	2,4	102	110	88	190	180
	100 x 100	011-1017-001	2,9	115	120	105	220	140
	125 x 125	011-1027-001	4,6	137	135	123	260	90
	150 x 100	011-1035-001	5,5	130	145	115	245	70
	150 x 150	011-1041-001	6,9	158	155	142	300	45

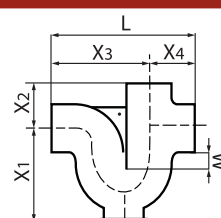
Double Branches	DN	Index no	Kg/ piece	X1	X2	X3	L	Packing unit
	68°							
	100 x 100 x 100	011-1073-001	3,6	86	130	130	215	120
	88°							
	100 x 100 x 100	011-1079-001	3,2	120	120	110	230	120

Reducers	DN	Index no	Kg/piece	A	L	Packing unit
	70 x 50	011-1400-001	0,5	10	75	1200
	100 x 50	011-1410-001	0,9	25	80	800
	100 x 70	011-1411-001	0,9	16	85	700
	125 x 100	011-1420-001	1,5	12.5	95	400
	150 x 50	011-1430-001	2,0	51	95	400
	150 x 70	011-1431-001	2,1	41	100	350
	150 x 100	011-1432-001	2,2	25	105	300
	150 x 125	011-1433-001	2,2	12.5	110	250
	200 x 100	011-1440-001	4,1	50	115	120
	200 x 150	011-1441-001	4,3	25	125	120

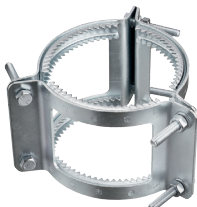
Downpipe supports	DN	Index no	Kg/piece	D	L	Packing unit
	50	960-1600-001	1,3	87	200	340
	70	960-1601-001	1,6	106	200	280
	100	011-1600-001	2,3	145	200	200
	125	960-1602-001	3,0	170	200	130
	150	011-1601-001	4,0	195	200	100
	200	011-1603-001	6,0	245	200	65

Bearing rings	DN	Index no	Kg/piece	D1	D2	A	B	C	Packing unit
	50	960-1800-003	0,9	61	93	193	148	25	
	70	960-1801-003	1,0	82	114	214	168	26	
	100	960-1804-001	1,3	115	147	250	202	28	
	125	960-1807-003	1,5	138	171	275	225	28	
	150	960-1803-003	2,0	163	199	300	252	30	
	200	960-1804-003	3,0	215	250	360	310	30	

Vertical Odour Trap (Syphon)	DN	Index no	Kg/piece	A	B	C	H	L	Packing unit
	100	960-1902-001	18,5	276	124	90	408	588	30

Horizontal Odour Trap (Syphon)	DN	Index no	Kg/piece	L	H	X1	X2	X3	X4	W	Packing unit
	100	960-1911-001	8,5	325	392	282	110	215	110	100	60

■ SML DKI COUPLINGS

CV coupling		CV grip collar		Rapid coupling		Kombi* grip collar		Konfix coupling	
									
DN	pressure (bar)	DN	pressure (bar)	DN	pressure (bar)	DN	pressure (bar)	DN	pressure (bar)
50	-	50	3	50	0,5	50	10	50	-
70	-	70	3	70	0,5	70	10	70	-
100	-	100	3	100	0,5	100	10	100	-
125	-	125	3	125	0,5	125	5	125	-
150	-	150	3	150	0,5	150	5		
200	-	200	3	200	0,5	200	3		

CV coupling	DN	Index no	Packing unit	Torque (Nm)
	50	910-0010-000	45	4-6
	70	910-0011-000	50	4-6
	100	910-0012-000	45	10-12
	125	910-0013-000	20	10-12
	150	910-0014-000	20	10-12
	200	910-0015-000	20	15-20

Installation manual



1) Fix the pipe cuff onto the pipe, middle distance ring rests against the pipe.



2) Roll down the protruding part of the cuff.



3) Insert fitting or another section of the pipe.



4) Roll up the cuff.



5) Put on the steel band and tighten screws.



6) Set in optimal position and tighten uniformly alternate screw.

Rapid coupling	DN	Index no	Packing unit	Torque (Nm)
	50	910-6000-000	45	max. 28
	70	910-6001-000	50	max. 28
	100	910-6002-000	45	28
	125	910-6003-000	20	28
	150	910-6004-000	20	28
	200	910-6006-000	20	50

Installation manual



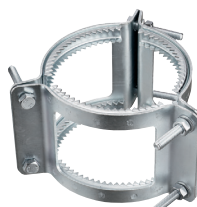
1) Put the clamp onto the end of the pipe.



2) Insert the next section of pipe or fitting.



3) Tighten the hex socket screw manually or with a drill-driver.

CV grip collar	DN	Index no	Packing unit	Torque (Nm)
	50	910-8100-000	10	5-8
	70	910-8101-000	10	5-8
	100	910-8102-000	10	10-12
	125	910-8103-000	10	10-12
	150	910-8104-000	5	15-20
	200	910-8105-000	5	15-20

Kombi* grip collar	DN	Index no	Packing unit	Torque (Nm)
	50	910-8150-000	10	18-20
	70	910-8151-000	10	18-20
	100	910-8152-000	10	30-35
	125	910-8153-000	10	30-35
	150	910-8154-000	10	30-35
	200	910-8155-000	2	40-50

Installation manual



1) Elements of the grip must enclose ends of pipes symmetrically.



2) Tighten loosely elements of the grip, claws must rest on the pipe, not on the coupling.



3) Tighten uniformly alternate screws to obtain symmetrical position.

Konfix coupling	DN	Index no	Packing unit	Torque (Nm)
	50	910-3000-000	50	2
	70	910-3001-000	50	2
	100	910-3002-000	20	2
	125	910-3003-000	10	2

Installation manual



1) Put the coupling at the pipe end and tighten to stop. Then fix to pipe with a hose clamp.



2) Remove the proper part of the rubber membrane, pulling gently with pliers.



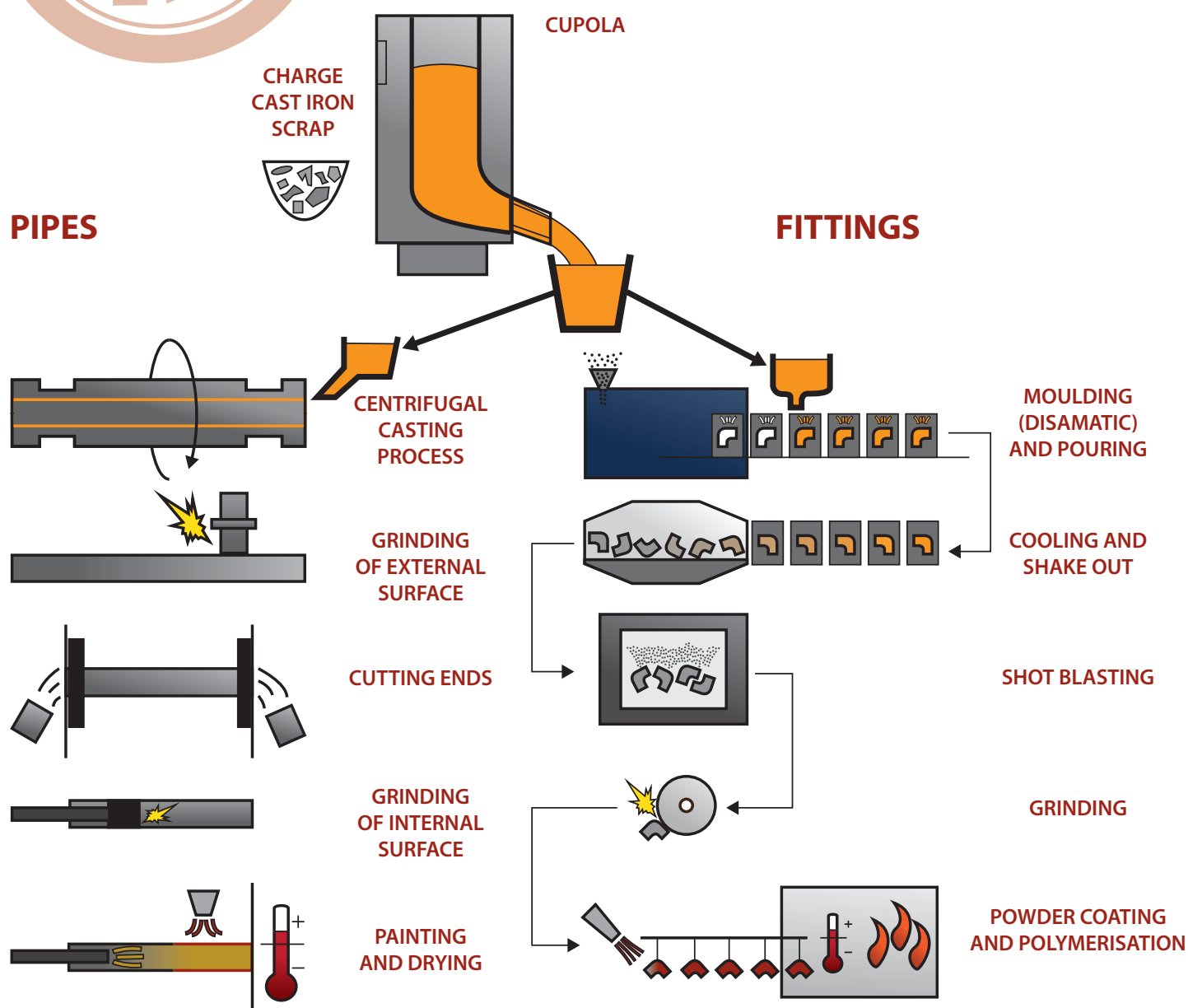
3) Mark depth of insertion on the pipe to be connected, lubricate and insert into opening.

TRAPER coupling PCV-cast iron	DN	Index no	Packing unit	Torque (Nm)
	100	910-5030-000		
	150	910-5035-000		
	200	910-5036-000		

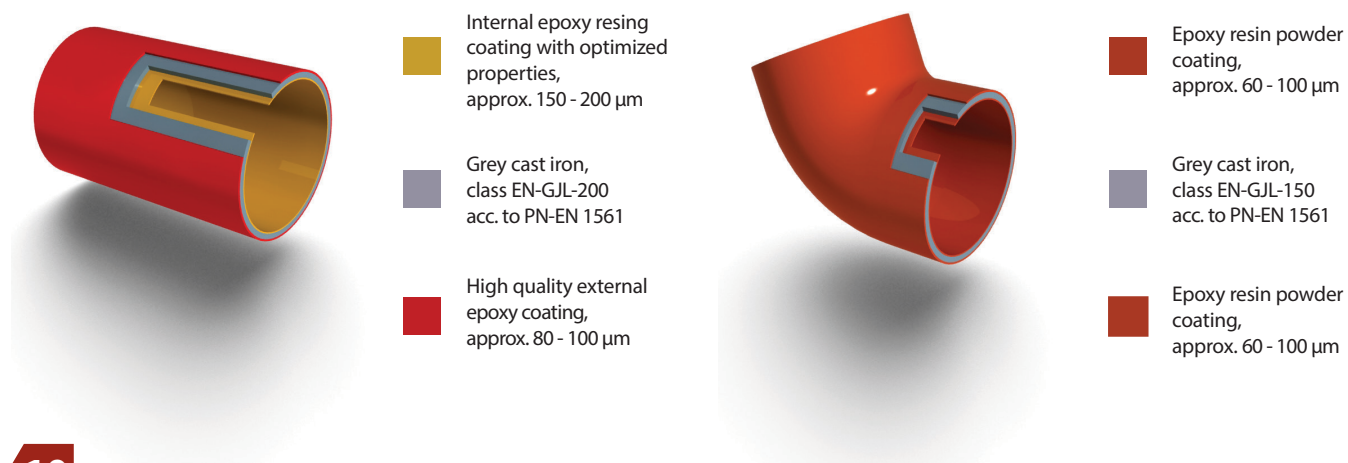
On request we also offer SVE couplings as well as CE and Inox couplings.

NOTE: When cutting SML DKI pipes or fittings to size, it is necessary to apply protection liquid on cut surfaces or paint them with a chemically hardening two-component varnish before fixing clamping rings.

* The Kombi grip collar may be used with both CV and Rapid coupling.



■ LAYERS OF SML DKI PIPES AND FITTINGS



IO-CERT
Foundry Research Institute
Certification and Standardisation Office

Zakopianska Str. 73
30-418 Cracow, Poland
tel.: +48 (12) 26 18 442
+48 (12) 26 18 111
fax: +48 (12) 26 50 870
bco@iod.krakow.pl
www.iod.krakow.pl

PCA
PEEL CENTER
AUTOMATIC
AC 030

CERTIFICATE No. CW-20/12

Certifying compliance of product:
Socketless pipes and fittings from grey cast iron
for the evacuation of water from buildings

with requirements of:
PN-EN 877:2004+A1:2007+AC:2009
Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings -
Requirements, test methods and quality assurance

Producer of product:
Koneckie Zakłady Odlewnicze S.A. w Końskich
1 Maja Str. 57, 26-200 Końskie, Poland

Certificate Holder:
Koneckie Zakłady Odlewnicze S.A. w Końskich
1 Maja Str. 57, 26-200 Końskie, Poland

Certificate has been issued on the basis of the results of:
• audit performed on 21 May 2012 (report of audit no. 13/2012),
• product testing performed in the Producer's laboratory under the supervision of the Certification
and Standardisation Office of Foundry Research Institute on 21 May 2012.

The Certification and Standardisation Office:
• has performed the evaluation of conformity according to **systemu 5** following the PKN-ISO/IEC
Guide 67:2007 (Certification Program PC-01),
• and performs the surveillance of the Certificate Holder in accordance with Contract no. U/147/2012.

Validity date: **12 June 2015**

Date of first certification: **13 June 2003**

The right to use this certificate applies only to products of the properties identical with the properties of a representative
sample submitted for testing in accordance with the requirements of the above cited reference document.
The detailed scope of the certification is specified in an attachment to this certificate.

Head of the Certification
and Standardisation Office
Elzbieta Balcer, MSc.
www.iod.krakow.pl

Cracow, 6 June 2012

CERTYFIKAT Nr CW-20/12

Potwierdzający zgodność wyrobu:
Rury i kształtki bezkuchelowe z żeliwa szarego
do instalacji odprowadzających wody z budynków

z wymaganiami:
PN-EN 877:2004+A1:2007+AC:2009
Rury i kształtki z żeliwa, złączka i elementy wyposażenia instalacji do odprowadzania
Wymagania, metody badań i zapewnienie jakości

Producent wyrobu:
Koneckie Zakłady Odlewnicze S.A. w Końskich
ul. 1 Maja 57, 26-200 Końskie

Posiadać certyfikatu:
Koneckie Zakłady Odlewnicze S.A. w Końskich
ul. 1 Maja 57, 26-200 Końskie

Certyfikat został wydany na podstawie wyników:
• audytu przeprowadzonego w dniu 21.05.2012 r. (raport z audytu nr 13/2012)
• badań wyrobu wykonanych w laboratorium Producenta pod nadzorem audytorów
i Normalizacji Instytutu Odlewnictwa w dniu 21.05.2012 r.

Biuro Certyfikacji i Normalizacji:
• dokonało oceny zgodności wyrobu według **systemu 5** zgodnie z Przewodnikiem
Guide 67:2007 (Program certyfikacji PC-01),
• oraz sprawuje nadzór nad Posiadaczem certyfikatu zgodnie z Umową nr...

Data pierwszej certyfikacji: **13.06.2003 r.**

Prawo do posługiwania się certyfikatem dotyczy wyłącznie wyrobów posiadających
jak wzór przedstawiony do badań i zgodnie z wymaganiami wyżej wymienionego certyfikatu.
Szczegółowy zakres certyfikacji określa załącznik będący integralną częścią niniejszego certyfikatu.

Kierownik
Biura Certyfikacji i Normalizacji
mgr Elzbieta Balcer

Kraków, 6 czerwca 2012 roku

TÜV SÜD
Management Service

CERTIFICATE

The Certification Body
of TÜV SÜD Management Service GmbH
certifies that

KZ
Koneckie Zakłady Odlewnicze
Spółka Akcyjna
ul. 1 Maja 57
PL-26-200 Końskie

has established and applies
a Quality Management System for

Production and sales
of iron castings

An audit was performed, Report No. **70062103**
Proof has been furnished that the requirements
according to

ISO 9001:2008
are fulfilled. The certificate is valid until **2013-02-25**
Certificate Registration No. **12 100 21799 TMS**

M. Wogel
Munich, 2010-03-17

IAF
OHS-TGA-ZM-97-92

TÜV SÜD Management Service GmbH • Zertifizierungsstelle • Ridlerstraße 65 • 80339 München • Germany

CERTYFIKAT

Jednostka certyfikująca
TÜV SÜD Management Service GmbH
zaświadcza, że przedsiębiorstwo

KZ
Koneckie Zakłady Odlewnicze
Spółka Akcyjna
ul. 1 Maja 57
PL-26-200 Końskie

wdrożyło i stosuje
system zarządzania jakością w zakresie

Produkcja i sprzedaż
odlewnów żeliwnych

Na podstawie audytu, nr sprawozdania: **70062103**
potwierdza się spełnienie
wymagań normy

ISO 9001:2008
Niniejszy certyfikat jest ważny do: **2013-02-25**
Numer rejestracyjny certyfikatu **12 100 21799 TMS**

M. Wogel
Monachium, 2010-03-17

IAF
OHS-TGA-ZM-97-92

TÜV SÜD Management Service GmbH • Zertifizierungsstelle • Ridlerstraße 65 • 80339 München • Germany



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*Quality
is our priority!*