



## TML Specifier's Manual

Düker cast iron drainage pipe system

für building and site drainage

in underground applications

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## TML cast iron drainage pipe system

The manufacture of cast iron drainage pipes, fittings and corresponding couplings is based primarily on the European standard EN 877. Apart from the building drainage, they are also used for site drainage and the connection to the public sewage system. For these systems, which are often laid underground, EN 877 contains specific regulations for the outside coating of pipes and fittings and for the metal collars of couplings. The Düker TML drainage pipe systems fulfils all of these requirements.

## TML coating

The material as well as the inside coating of TML pipes correspond to those of the well-known Düker SML pipes:

- material: gray cast iron with flake graphite type at least EN-GJL-150 as per EN 1561
- inside coating: fully cross-linked two-components epoxy coating with resistance that surpasses the requirements of EN 877 by far

The outside coating of TML pipes corresponds to EN 877:

- thermal spray zinc coating, surface density at least 130 g/m<sup>2</sup>
- finishing paint compatible with zinc, brown colour

TML fittings receive a high-quality epoxy powder coating in brown colour inside and out.

## Planning and installation

Planning and installation of TML pipelines follow the technical regulations and stipulations of

- EN 12056 Gravity drainage systems inside buildings
- EN 752 Drain and sewer systems outside buildings
- EN 1610 Construction and testing of drains and sewers

and other European, national or local standards and regulations.

## CE conformity

In 2008, the relevant product standard EN 877 for cast iron drainage pipe systems became a so-called harmonized standard. This means that it now contains an annex ZA with details about the product characteristics and testing required for CE marking.

The manufacturers are now required to apply the CE marking to their products as per EN 877 in order to confirm the product's suitability for the free trade inside the EU. The CE marking replaces certain national marks such as the German "Ü" conformity mark.

The application of the CE marking must be based on a Declaration of Performance issued by the manufacturer. This Declaration of Performance (DOP) is based on the European Construction Products Regulation (CPR). The Düker DOPs can be downloaded at [www.dueker.de/dop](http://www.dueker.de/dop).

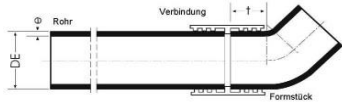
However, and unlike former "Ü" mark, the CE marking on cast iron drainage pipe products is not based on any third-party quality tests. All tests (with the exception of a fire test for the European classification "non-combustible") are carried out and confirmed only by the manufacturer himself. For this product, the CE marking is not an effective statement about product quality.

## GEG quality association cast iron drainage technology

In order to fulfil the increasing safety requirements of our partners in plumbing, trade, planning and authorities, the European cast iron pipe industry as well as suppliers of accessories founded the IZEG. IZEG and the integrated quality association GEG award a RAL quality label to cast iron drainage pipes and fittings that have passed a number of tests defined in the RAL GEG quality directives.

Those awarded with the RAL GEG quality label are subject to an initial test as well as regular third-party surveillance by an authorized institute. The requirements for this label are considerably higher than those of EN 877, particularly regarding the resistance of the inside coating. Unlike the CE marking, this quality label guarantees users a permanently high product quality.

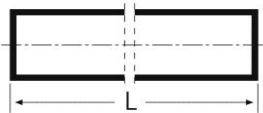



**TML -Pipes and Fittings (DIN EN 877 and 19 522)**

nominal diameter	exterior Ø		wall thickness pipes and fittings		admissible interior pressure		insertion lengths (sealing zone)	pipe weight empty	surface ca m <sup>2</sup>
			nomi- nal	mini- mum	pipes up to	fittings*			
DN	DE	tolerance					t	ca.kg/m	per m
100	110	+2/-1	3,5	3,0	10 bar	10 bar	40	8,5	0,35
125	135	+2/-2	4,0	3,5	10 bar	10 bar	45	11,6	0,42
150	160	+2/-2	4,0	3,5	10 bar	5 bar	50	14,0	0,50
200	210	+2,5/-2,5	5,0	4,0	10 bar	5 bar	60	23,8	0,65

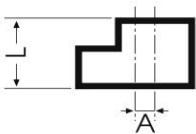
\* except inspection pipes and connection pieces

All dimensions in mm

**Pipes**
**TML -pipe DIN 19522 - DN 100x3000**

L= 3000mm

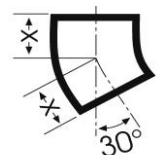
DN	kg	item no.
100	25,4	232055
125	34,8	232056
150	42,1	232057
200	71,5	232058

**Reducers (R)  
(adapters)**

**TML -reducer DIN 19522 - 125 x 100 R**

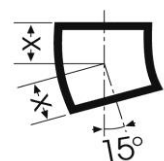
DN	A	L	kg	item no.
125x100	12,5	95	1,5	232071
150x100	25	105	2,2	232072
150x125	12,5	110	2,2	232073
200x100	50	115	4,1	232074
200x125	37,5	120	4,1	232075
200x150	25	125	4,3	232076

**Bend 45°**
**TML -bend DIN 19522-100-45**

DN	X	kg	item no.
100	70	1,5	232061
125	80	2,3	232064
150	90	3,5	232067
200	110	5,5	232070

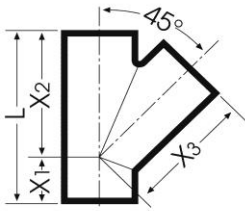
**Bends 30°**

DN	X	kg	item no.
100	60	1,3	232060
125	70	2,0	232063
150	80	3,0	232066
200	95	5,4	232069

**Bends 15°**

DN	X	kg	item no.
100	50	1,0	232059
125	60	1,7	232062
150	65	2,5	232065
200	80	4,6	232068

## branches 45°



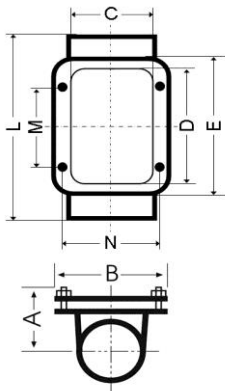
The introduction of the German standard DIN 19522:200-01 (supplement to EN 877) led to dimensional changes on some fittings such as branches 45°.

Such fittings of older manufacture may therefore deviate from the dimensions stated in this document.

TML -branch DIN 19522-70x50-45							
DN	X1	X2	X3	L	kg	item no.	
100 x 100	70	205	205	275	4,2	232077	
125 x 100	60	220	220	280	5,2	232078	
125 x 125	80	240	240	320	6,4	232079	
150 x 100	55	240	240	295	6,8	232080	
150 x 125	70	255	255	325	8,0	232081	
150 x 150	90	265	265	355	9,2	232082	
200x 100	40	265	265	305	10,0	232083	
200 x 125	55	280	280	335	11,9	232084	
200 x 150	75	300	300	375	13,3	232085	
200 x 200	115	340	340	455	17,2	232086	

## Inspection pipes

with rectangular opening (RRrk)



TML -inspection pipe DIN 19522 - 100 RRrk										
DN	A	B	C	D	E	L	M	N	kg	item no.
100	83	160	100	200	230	340	130	130	7,6	232096
125	104	190	126	225	255	370	150	160	10,3	232098
150	112	215	150	250	280	395	170	180	13,0	232099
200	137	262	200	300	330	465	200	235	22,0	232101

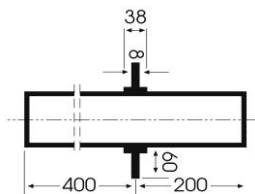
with toroidal sealing ring in EPDM

## Plugs (ED)



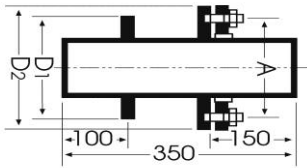
TML -plug DIN 19522 - 100 ED			
DN	L	kg	item no.
100	40	0,5	232091
125	45	1,1	232092
150	50	1,7	232093
200	60	3,1	232094

## Pipes with wall flange



TML -pipe with wall flange			
DN	L	kg	item no.
100	600	8,8	235820

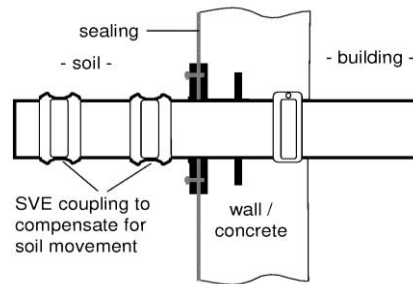
### Adapters with clamp and wall flange



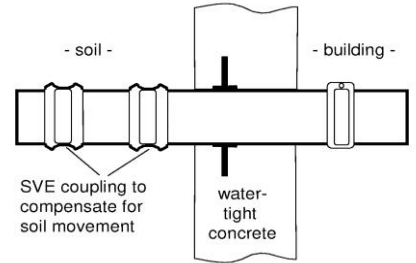
TML -adapter with clamp and wall flange					
DN	A	D1	D2	kg	item no.
100	191	190	230	11,6	235811

### Installation examples

#### SML adapters with clamp and wall flange

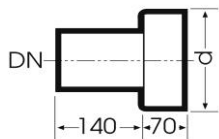


#### SML pipe with wall flange



Pipes with wall flange and adapters with clamp and wall flange can be used for wall penetrations of drainage pipes which require water and gas impermeability, e.g. in outer walls, floor plate, basement waterproofing.

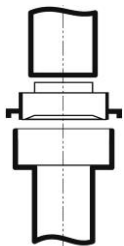
### Cast iron connection pieces for clay pipe (E)



TML -connection DIN 19522 - 300 - E			
DN	d	kg	item no.
100	159 ± 2,0	4,9	232087
125	187 ± 3,5	6,7	232088
150	218 ± 3,5	9,7	232089
200	278 ± 3,5	13,3	232090

Connections for these: clay pipe A-ring

### Vitrified clay pipe (normal wall thickness) to TML pipe DN 100 to 200

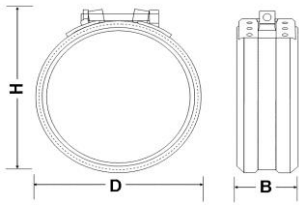


clay pipe as per EN 295

clay pipe A-ring (AR) (=connection ring) as per DIN EN 295  
TML-connection piece with socket for connecting stoneware pipes

Clay pipe A-Ring DIN EN 295 (AR) for TML connection piece clay pipe to cast iron

DN	kg	item no.
100	0,4	100312
125	0,6	100313
150	0,7	100314
200	1,0	100315

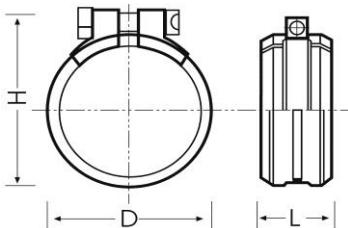
**Dükorapid® Inox coupling**

DN	D $\approx$	H $\approx$	L $\approx$	item no.
maximum dimensions after installation				
100	123	135	47,0	240615
125	152	164	54,0	240616
150	177	189	54,0	240617
200	230	240	62,0	240618

One screw coupling for soil installation without additional corrosion protection and for installation outside of buildings

Attention: particularly aggressive soils may call for an additional corrosion protection (e.g. shrinking hose)

Material metal collar:	stainless steel, austenitic chromium nickel steel, 1.4404 as per EN 10088
Material locking parts:	lock 1.4404 as per EN 10088-2 bolt, washer, square nut steel A4
Material sealing:	EPDM
Axial restraint:	up to 0.5 bar
Screw size:	cylinder head bolt with hexagon socket; DN 500-150: M 8, DN 200: M 10
Torque:	DN 100-150: 18 Nm; DN 200: 28 Nm if the locks should touch do not tighten any more

**Rapid Inox coupling**

DN	D $\approx$	H $\approx$	L $\approx$	item no.
maximum dimensions after installation				
100	125	135	45,4	234828
125	147	162	54,5	234829
150	172	187	54,5	234830
200	227	244	70,0	234831

One screw coupling for soil installation without additional corrosion protection and for installation outside of buildings

Attention: particularly aggressive soils may call for an additional corrosion protection (e.g. shrinking hose)

Material metal collar:	stainless steel, austenitic chromium nickel steel, 1.4571/1.4401 as per EN 10088
Material locking parts:	stainless steel, austenitic chromium nickel steel, 1.4571/1.4401 as per EN 10088 screw, washer, square nut: A4
Material sealing:	EPDM. NBR on request for waste water containing oil, animal grease, solvents or petrol
Axial restraint:	DN 100 - 200: up to 0.5 bar
Screw size:	hexagon socket screw; DN 100 - 150: M 8; DN 200: M 10
Torque:	until both fastening heads come together
Marking:	marking W5 on the metal collar

**Connect-F Inox coupling**

DN	a	b	c	≈d	≈e	item no.
100	98	40	25	133	148	234834
125	113	50	35	166	194	234835
150	113	50	35	186	210	234836
200	138	74	35	240	270	234837

coupling for installation in the soil or outside of buildings

Attention: particularly aggressive soils may call for an additional corrosion protection (e.g. shrinking hose)

Material metal collar: stainless steel 1.4571

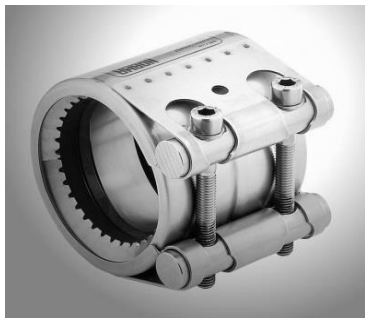
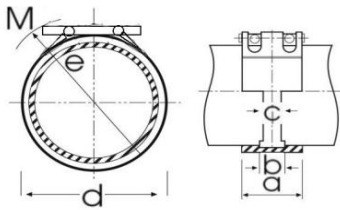
Material locking parts: stainless steel, bolts 1.4401, screws 1.4404

Material sealing: EPDM

Axial restraint: -

Screw size: DN 100: M 8; DN 125 - 150: M 10; DN 200: M 12

Torque: as stated on the coupling

**Connect-G Inox coupling**

DN	a	b	c	≈d	≈e	item no.
100	98	40	25	130	150	234845
125	115	50	35	165	195	234846
150	115	50	35	185	215	234847
200	140	67	35	240	270	234848

coupling with axial restraint for installation in the soil or outside of buildings

Attention: particularly aggressive soils may call for an additional corrosion protection (e.g. shrinking hose)

Material metal collar: stainless steel, casing 1.4571, claw ring 1.4310

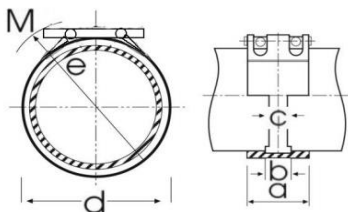
Material locking parts: stainless steel, bolts 1.4401, screws 1.4404

Material sealing: EPDM

Axial restraint: up to 10 bar

Screw size: DN 100: M 10; DN 125 - 150: M 12; DN 200: M 16

Torque: as stated on the coupling















no.	qty.	item	unit price	amount
5		<p>pcs. <b>Düker TML inspection pipes</b> with rectangular opening, for horizontal pipes, <b>DN .....</b>, supply and installation</p> <p>material: wages:</p>		
6		<p>pcs. <b>Düker TML connection pipes E</b> for connecting stoneware pipes to TML, <b>DN .....</b>, supply and installation</p> <p>material: wages:</p>		
7		<p>pcs. <b>Rapid-Inox couplings</b>, lock with only one screw, all parts made of material no. 1.4571/1.4401 as per EN 10088, sealing collar made of EPDM**, <b>DN .....</b>, supply and installation.</p> <p>material: wages:</p>		
8		<p>pcs. <b>Connect-F-Inox couplings</b>, metal collar made of material no. 1.4571, locking parts made of material no. 1.4401, screws made of material no. 1.4404, sealing collar made of EPDM, <b>DN .....</b>, supply and installation.</p> <p>material: wages:</p>		
9		<p>pcs. <b>Connect-G-Inox couplings</b>, coupling with axial restraint, metal collar made of material no. 1.4571, locking parts made of material no. 1.4401, screws made of material no. 1.4404, claw ring made of material no. 1.4310, sealing collar made of EPDM, <b>DN .....</b>, supply and installation.</p> <p>material: wages:</p>		
10		<p>pcs. <b>SVE couplings</b>, approval no. Z-42.5-273 made of Polypropylene-CO with integrated sealing lips NR-SBR, for underground installation, <b>DN .....</b>, supply and installation.</p> <p>material: wages:</p>		
11		<p>pcs. <b>Kombi grip collars***</b>, securing grip collar with axial restraint for Rapid-Inox couplings on pipelines subject to inside pressure, <b>DN .....</b>, supply and installation.</p> <p>material: wages:</p>		
		<p>* for further fittings please refer to the product range</p>		
		<p>** if applicable the rubber quality is to be modified to NBR.</p>		
		<p>*** this coupling must be equipped with an additional corrosion protection in case of soil installation.</p>		

DRAINAGE TECHNOLOGY

GLASS LINING TECHNOLOGIES

JOBGING FOUNDRY

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12.15 Subject to change without notice.

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