

# PREIS®

## DRAINAGE SYSTEMS

### KML - Cast Iron Socketless Drain Pipe Systems for Special Requirements





## PREIS® KML - the cast iron socketless pipe system

Cast iron is the classic material for domestic drainage pipes.

The discharge of particularly aggressive wastewater from facilities such as canteens, commercial kitchens, laboratories, medical facilities, etc. leads to special requirements for drainage pipes.

Due to the properties of the materials used, **PREIS® KML** offers all the advantages attributed to a cast iron drainage system such as soundproofing properties, fire safety, temperature resistance, etc. In addition to this, **PREIS® KML** pipes are coated on both sides, inside and outside, applying a highly resistant coating with a special procedure; this provides protection against aggressive sewage water and ensures that the pipes are suitable for underground laying.

The following standards and regulations are relevant to **PREIS® KML** products:

**EN 877** | Cast iron pipes and fittings, their joints and accessories for the evacuation of water from building. Requirements, test methods, and quality assurance.

**RAL-GZ 698** | RAL quality label demanding a notably extended test range and stricter requirements on quality, which goes far beyond the requirements of EN 877.

**DIN 19522** | Complementary standard to EN 877. This standard mainly includes details about design and layout measures of pipes and fittings.

**EN 1561** | Standard for casting of products made from grey cast iron with lamellar graphite.

### Material characteristics

<b>Density</b> approx. 7.2 kg/dm <sup>3</sup> (71.5kN/m <sup>3</sup> )	<b>Crushing strength</b> (peak compressive strength) ≥ 350 MPa	<b>Coefficient of thermal conductivity</b> 50-60 W/mK (t 20°C)
<b>Tensile strength</b> ≥ 150 MPa for fittings ≥ 200 MPa for pipes	<b>Modulus of elasticity</b> 8 · 10 <sup>4</sup> bis 12 · 10 <sup>4</sup> N/mm <sup>3</sup>	<b>Coefficient of linear expansion</b> only 0,0105mm/mK (between 0 und 100°C) more or less similar to concrete; can be set in concrete without any difficulty
<b>Compressive strength</b> approx. 3 to 4 times the value for tensile strength	<b>Poisson's ratio</b> -(0.3)	
<b>Shear strength</b> pprox. 1.1 to 1.6 times the value for tensile strength	<b>Chemical resistance</b> PREIS® KML s highly resistible against domestic sewage water with a pH value between pH1 to pH14.	<b>Heat resistance</b> PREIS® KML complies with fire resistance class A2 according to E 13501 - not combustible*

**\*Annex F.2 of EN877 confirms:** "Cast Iron products in accordance with this European Standard are non-flammable and non-combustible. In case of fire they retain their functional characteristics and they remain fire proof for a few hours, that is to say during this period their walls are tight against flames and gases and they remain free from bursts, distortions and they are failsafe. Wall and ceiling pass through remain intact."



## Evidence of quality and safety given by the GEG quality label

**— This quality label from GEG is a guarantee for cast iron drainage systems you can trust also in future.**

For quality assurance reasons, the „German Institute for Quality Assurance and Certification“ (RAL), Sankt Augustin, took the lead and founded the Gütegemeinschaft Entwässerungstechnik Guss e.V. (GEG - German Association for Drainage Technology Castings).

Its main objective is to guarantee excellent product quality also for the future - documented by the quality label (RAL-GZ 698). There are suppliers who do not comply with the required quality objectives which have always been relevant criterion for cast iron drain pipes. The quality label takes into account the need for safety of all our partners, such as distributors, craftsmen, planning firm or authorities.

The quality label is awarded upon successful completion of an extensive initial test by independent, recognised test institutes. In addition, the test institutes conduct ad hoc external inspections at least twice a year to assure the quality of the products meets the stringent quality requirements.

These measures guarantee consistently high quality and express the great responsibility of manufacturers towards their partners in the market, for example distributors, fitters and end customers.

### Requirements and inspections

Requirements as of →	EN 877	GEG
<b>salt spraying</b>	350 hours	1500 hours
<b>Resistance to waste water*</b>	30 days at 23°C	30 days at 50°C
<b>Chemical resistance</b>	within a range of pH 1 to pH 14, 30 days at 23°C	enhanced tests with aggressive substances such as phosphoric acid (pH 1)

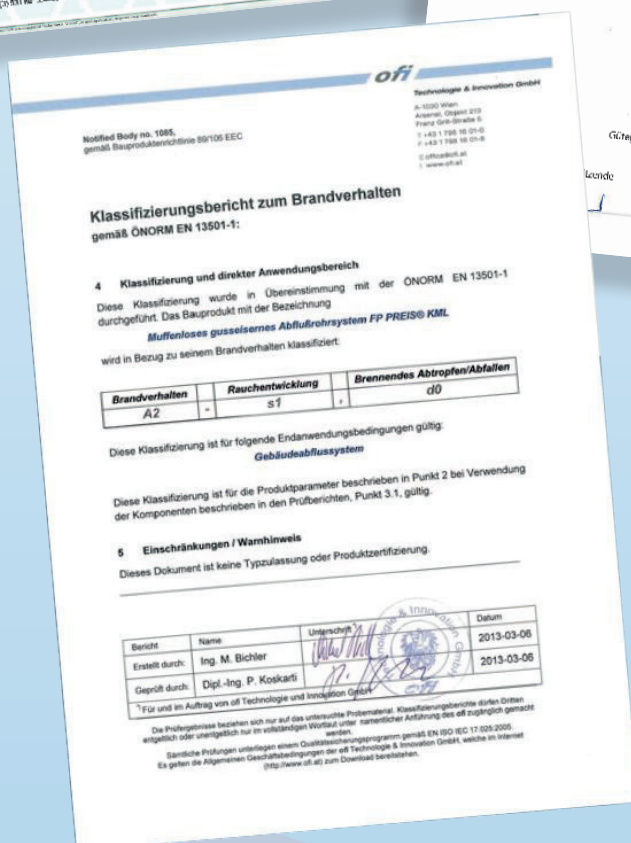
\*For typical composition of waste water see EN 877, chapter 5.7.2.2, table 5



## Third party certified quality assurance



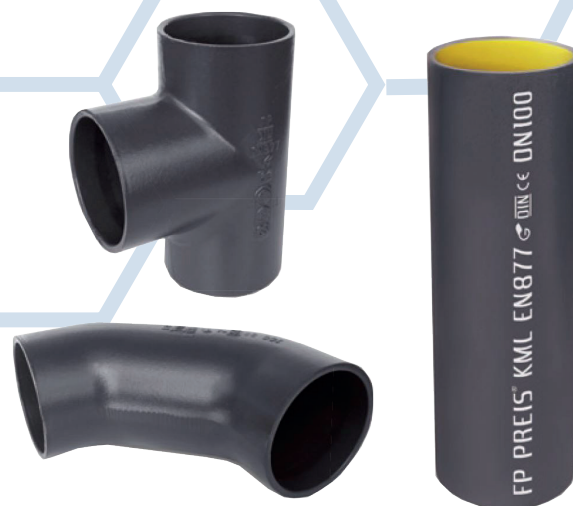
We continually strive for a certified quality assurance system and quality assurance of cast iron drainage pipes, fittings and couplings.





## Production

At the foundry of FERRO-PREIS, PREIS manufactures grey cast iron products containing lamellar graphite.



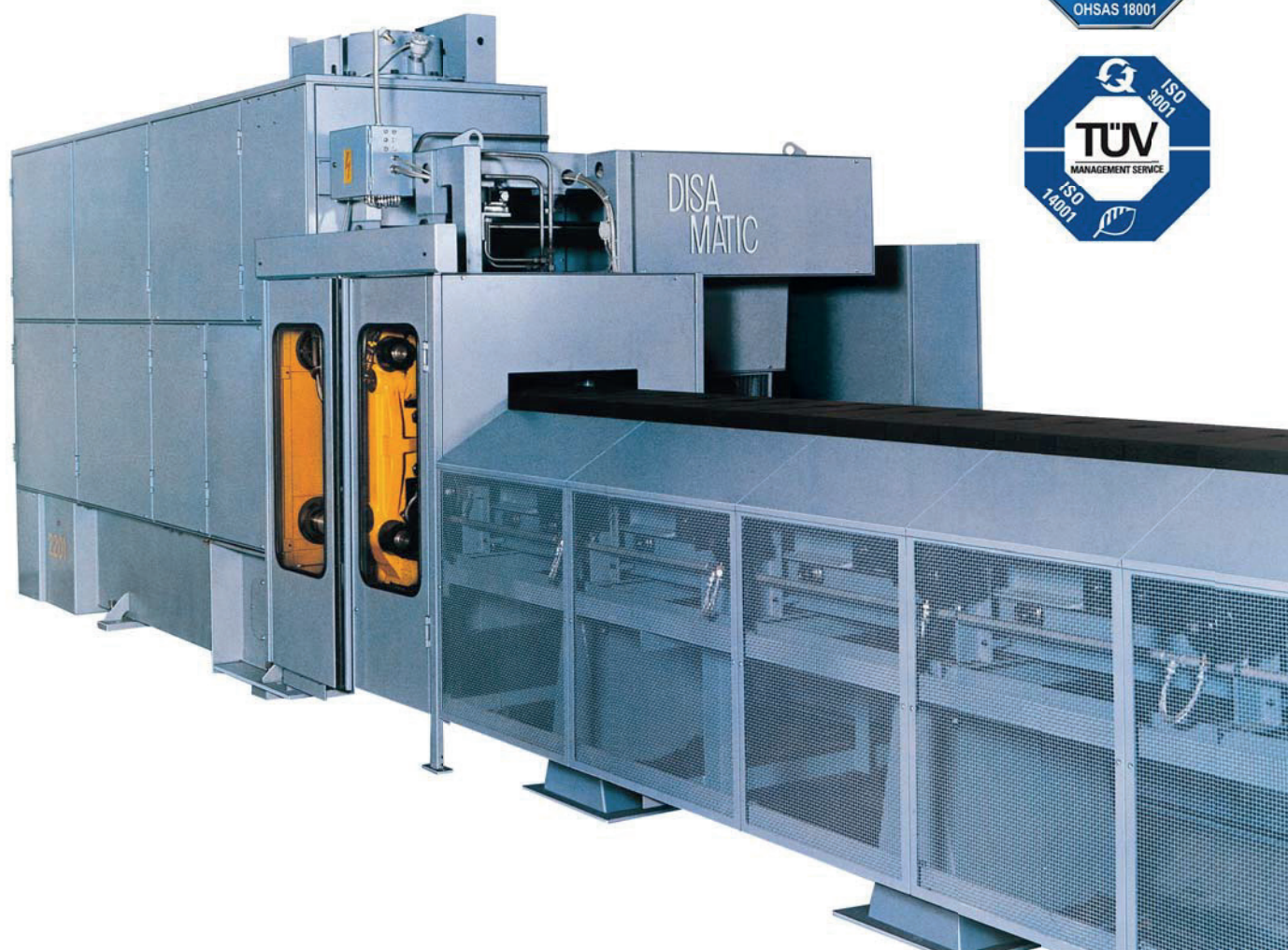
**FERRO-PREIS** is equipped with state of the art machinery. This enables us to produce in an efficient and environment-friendly way.

The quality of our products is extremely important to us. Therefore, **PREIS / FERRO-PREIS** takes the opportunity to continuously monitor all production steps to constantly improve production processes.

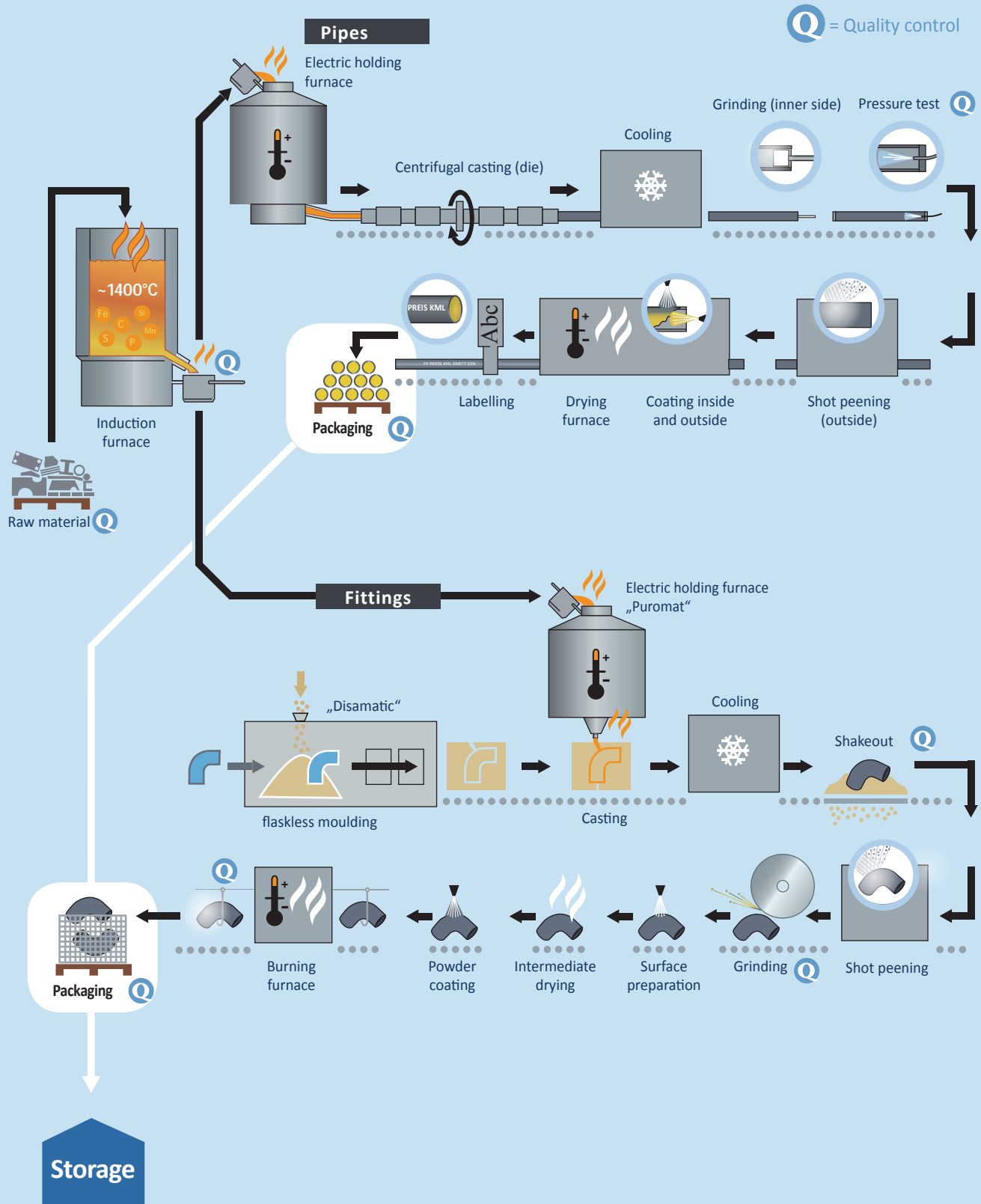
Hence, for very complex geometric shapes of cast iron parts we use state-of the art 3-D measuring system during on-going product development and for carrying out inspection of the products.

All working processes are accompanied and supervised by international certifications:

- ISO 9001:2008: Certificate of quality management
- ISO 14001:2009: operational environment
- BS OHSAS 18001:2007: Occupational health and safety as a quality standard



# Production process





## Marking of PREIS® KML pipes and fittings

— for aggressive wastewater

### Manufacturer marking for fittings

Fittings	
1	FP - manufacturer label
2	DIN - label
3	EN 877 - reference to the standard
4	RAL quality label - of the GEG
5	CE - label of conformity
6	Nominal width and angular position of the fitting
7	Day/month/year period of production

### Manufacturer markings for pipes

Pipes	
1	FP PREIS® - manufacturer label
2	KML - Product labeling
3	EN 877 - reference to the standard
4	RAL quality label - of the GEG
5	DIN - label
6	CE - label of conformity
7	DN - nominal width
7	Day/month/year period of production



## Coating technology from PREIS® KML

### Special applications need special coatings

Aggressive wastewaters are defined by their composition and their temperature fluctuations. Furthermore, the trend towards water-saving building drainage leads to a higher concentration of organic and inorganic substances in the pipelines.

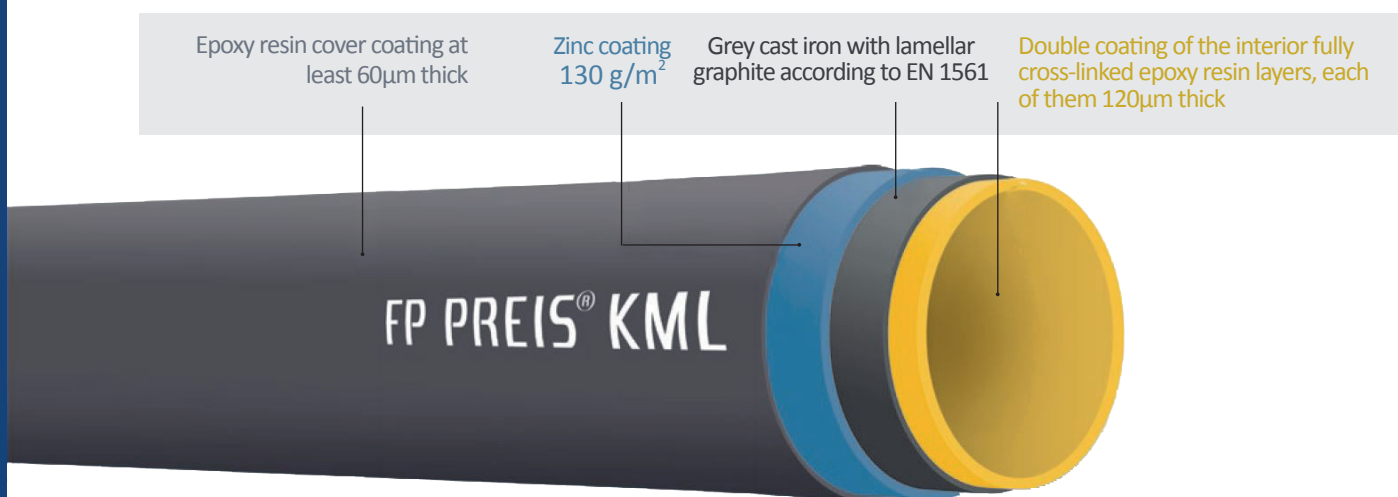
The quality of the inner coating is decisive for the lifetime of the drainage system. Increasingly aggressive wastewater causes special demands on the inner coating.

**PREIS® KML** is particularly suitable for these requirements due to the high-quality interior and exterior coating.

### PREIS® KML pipes

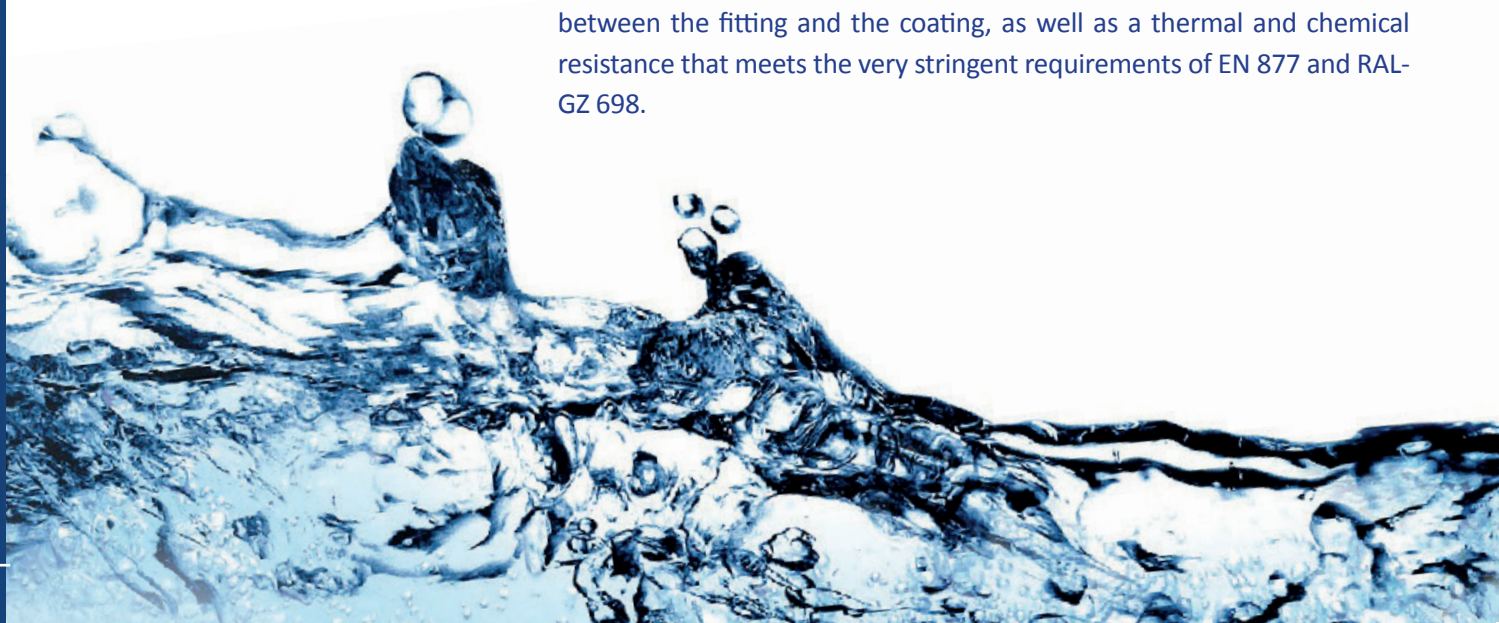
The inner coating of **PREIS® KML** pipes consists of a double, fully cross-linked epoxy resin coating of each 120µm and reliably protects the pipe from aggressive wastewater.

Outside, the pipes are provided with a galvanizing of 130 g/m<sup>2</sup> and an epoxy resin cover coating of at least 60µm.



### PREIS® KML Fittings

The coating of the fittings is carried out inside and outside by an at least 200 µm thick epoxy powder-coating. This creates a high strength bond between the fitting and the coating, as well as a thermal and chemical resistance that meets the very stringent requirements of EN 877 and RAL-GZ 698.



# The benefits of cast iron drainage systems



## Chemically highly resistant

Specially developed for aggressive wastewater



## Preventive fire protection

PREIS® KML pipes and fittings are not combustible



## Noise protection

reduced sound transmission



## 100% recyclable

no problems with disposal



## No waste of resources

PREIS® KML are mainly made of scrap iron



## Sturdy and dimensionally stable

impact resistant



## High abrasion resistance

easy flow due to the smooth surface



## Not sensitive to heat and cold

low thermal expansion (0,0105 mm/mK) more or less similar to concrete; It can, therefore, be set in concrete without any difficulty



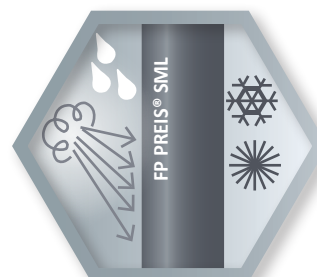
## Easy-to-assemble

in a flexible manner - no need for special tools



## Buriable

Thanks to high-quality outer coating buriable



## Weatherproof

Proofed against the weather influences



# Chemical resistance of PREIS® KML

PREIS® KML is the perfect solution for building drainage whenever the composition of wastewater requires specific materials. As resistance of the pipe system against wastewater is not only influenced by the composition of chemical elements, but also by pressure, temperature, etc., details given in the table have to be taken as a recommendation for your orientation.

For detailed information, please, ask for our form "Resistance". Send us your detailed specifications or a sample - we will be pleased to analyse it in our laboratory.

## Resistance of PREIS® KML

	chemical formula	conc.	pH	20°C	60°C	80°C
<b>WATER</b>						
Wastewater acc. to DIN EN 877	-	-	7.0			
Saltwater	H <sub>2</sub> O/NaCl	30g/l	5.6			
Freshwater	H <sub>2</sub> O	-	-			
Deminerlized water	H <sub>2</sub> O	100%	6.4			
<b>INORGANIC ACIDS</b>						
Phosphoric acid	H <sub>3</sub> PO <sub>4</sub>	25%	1.0			
Phosphoric acid	H <sub>3</sub> PO <sub>4</sub>	10%	1.3			
Phosphoric acid	H <sub>3</sub> PO <sub>4</sub>	5%	1.8			
Phosphoric acid	H <sub>3</sub> PO <sub>4</sub>	3%	2.0			
Nitric acid	HNO <sub>3</sub>	10%	2.0			
Hydrochloric acid	HCL	5%	1.0			
Sulfuric acid	H <sub>2</sub> SO <sub>4</sub>	10%	1.0			
Sulfuric acid	H <sub>2</sub> SO <sub>4</sub>	1%	2.0			
Hydrogen peroxide	H <sub>2</sub> O <sub>2</sub>	10%	3.5			
<b>ORGANIC ACIDS</b>						
Acetic acid	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	30%	1.7			
Acetic acid	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	10%	2.0			
Lactic acid	C <sub>3</sub> H <sub>6</sub> O <sub>3</sub>	10%	1.1			
Lactic acid	C <sub>3</sub> H <sub>6</sub> O <sub>3</sub>	1%	2.0			
Citric acid	C <sub>6</sub> H <sub>8</sub> O <sub>7</sub>	5%	2.0			
<b>ALKALIS</b>						
Ammonia	NH <sub>3</sub>	10%	12.1			
Potash	K <sub>2</sub> CO <sub>3</sub>	50%	12.4			
Potash	K <sub>2</sub> CO <sub>3</sub>	10%	12.0			
Sodium	Na <sub>2</sub> CO <sub>3</sub>	10%	11.4			
<b>SALTS</b>						
Ammonium sulfate	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub>	3%	6.7			
Potassium chloride	KCl	3%	4.2			
Sodiumhydrogenphosphat	NaH <sub>2</sub> PO <sub>4</sub>	3%	4.2			
<b>SOLVENT</b>						
Ethanol	C <sub>2</sub> H <sub>5</sub> OH	-	-			
Glycol (ethylene glycol)	C <sub>2</sub> H <sub>6</sub> O <sub>2</sub>	-	-			
All Purpose cleaner	-	5%	-			
Dish soap	-	5%	-			







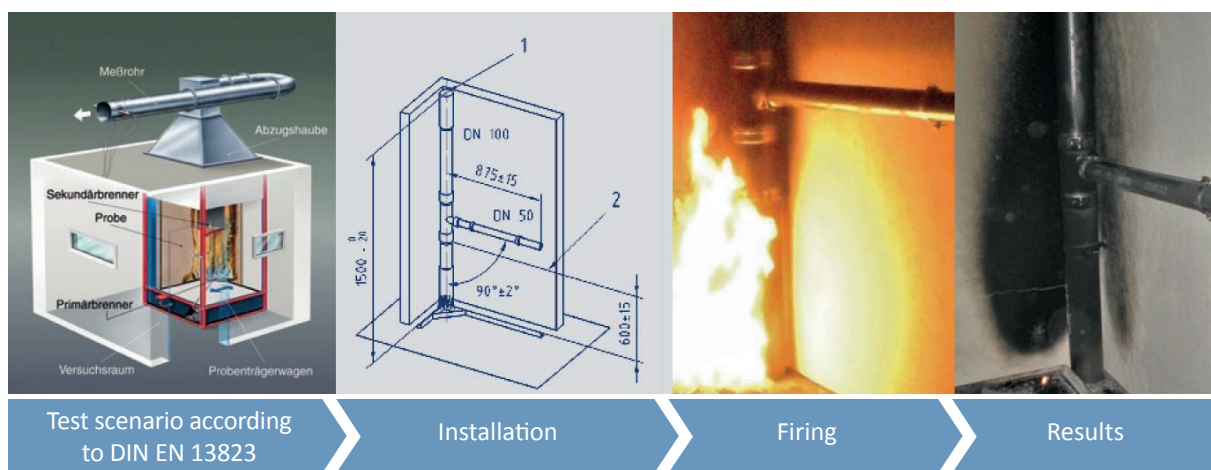
## Preventive fire protection

**PREIS® KML fulfils all requirements.**

Preventive fire protection is the generic term for all preventive measures taken to inhibit or limit fire outbreak, spreading of fire or the effects of fire. Constructional measures are varied, especially for public buildings where people gather, and they already start with the selection of materials and components.

As set forth in EN 877, the Austrian Research Institute for Chemistry and Technology tested our cast iron **PREIS® KML** drainage system for fire behaviour according to EN 13823 (reaction to fire tests for building products) by means of the SBI-test (Single Burning Item Test) and according to EN ISO 1716 (Determination of the heat of combustion) by means of an oxygen bomb calorimeter and it confirmed the **classification of A2** according to EN 13501.

### SBI-Test (Single-Burning-Item-Test):



The advantages of the cast iron drainage system **PREIS® KML** are confirmed:

- non-flammable (fire class A2 acc. to EN 13501).
- No smoke development through the system
- no burning or dripping material due to the heat generated

### Classification and direct scope\*

This classification was carried out in accordance with ÖNORM EN 135010-1. The construction product called "**cast iron socketless drainage system FP PREIS® KML**" is classified in relation to its fire behavior:

Fire behavior	Smoke development	Dripping off while burning
A2	s1	d0

This classification is valid for the following end use conditions: "**Building drainage systems**"



\*ofi - classification report Nr. 408.676/1 (2013-03-06)

## Sound insulation

Sound insulation is one of the main advantages of PREIS® KML.



Due to the high density of cast iron and the buffer effect of the rubber lining in the couplings, sound transmission is reduced to a minimum so that the system is a guarantee for silent drainage.

This provides the basis for general well-being in both homes and offices, which is required by law and laid down in DIN 4109.

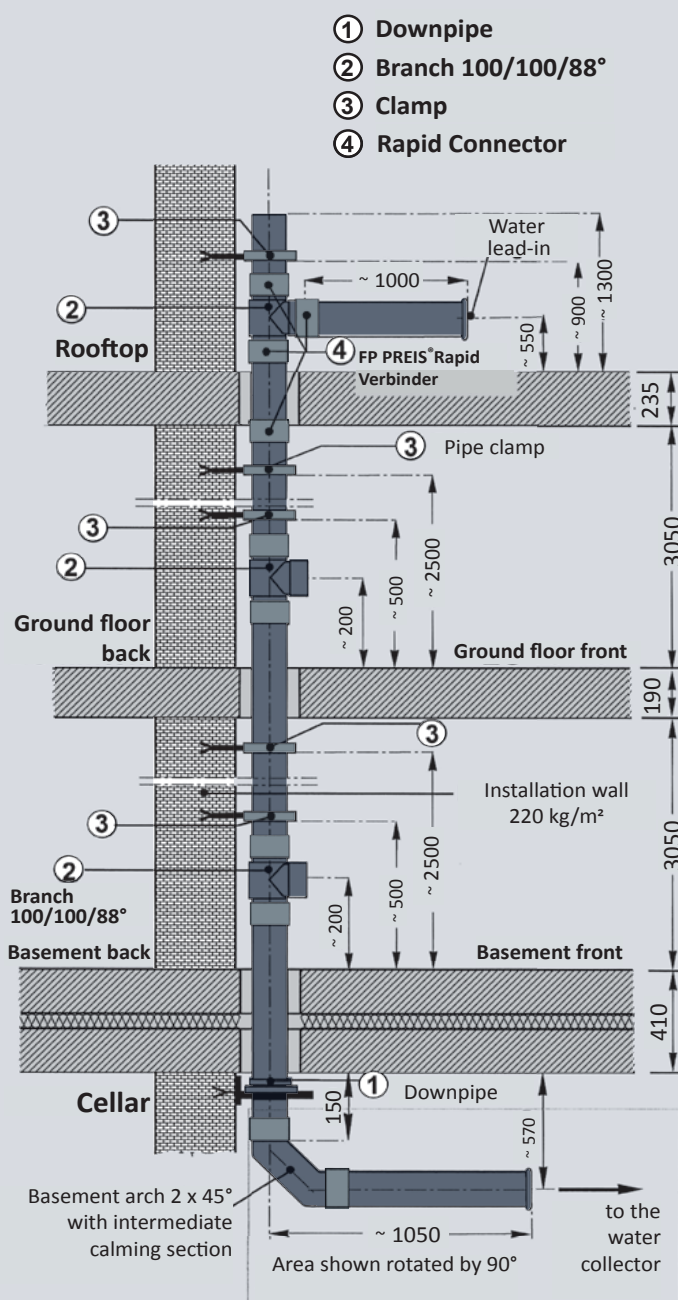
### Tests

PREIS has carried out the sound insulation test in accordance with DIN 4109 and EN 14366 at the renowned Fraunhofer Institute in Stuttgart.

In these tests, everyday and practice-related situations were simulated to show that not only under laboratory conditions, best results are achieved, but also achieved during daily installation on the construction site.

The tests have shown that the cast iron drainage system with the Rapid connectors as a stand-alone system has a very low noise level.

Socket-less cast-iron drainage pipe systems from PRICE are therefore the first choice to meet the requirements of sound insulation regulations with a standard product without additional costly measures to set.



Test set-up for the sewage system, attached to the installation wall with different pipe clamps (illustration not to scale, dimensions in mm). Sketch Fraunhofer Institute for Building Physics

# KML pipes

## Dimensions and weights

Nominal width DN	External diameter		Wall thickness		Insertion length (sealing zone) t	Pipe weight		Surface approx. m <sup>2</sup> per m
	DE	Permitted deviation	e	Pipes and fittings permitted deviation		empty approx. kg/m	full approx. kg/m	
50	58	+2	3.5	-0.5	30	4.3	6.4	0.18
70*	78		3.5	-0.5	35	5.9	9.9	0.25
75-S	75		3.5	-0.5	35	5.7	10.1	0.25
80	83	-1	3.5	-0.5	35	6.3	10.6	0.26
100	110		3.5	-0.5	40	8.5	16.7	0.35
125	135	+2	4.0	-0.5	45	11.9	24.5	0.42
150	160	-2	4.0	-0.5	50	14.2	32.2	0.50
200	210	+2,5	5.0	-1.0	60	23.3	54.5	0.65
250	274		5.5	-1.0	70	33.5	87.6	0.85
300	326	-2,5	6.0	-1.0	80	43.6	120.6	1.02

\*DN70: expires 2022



# KML pipes and fittings

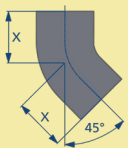
## Product overview

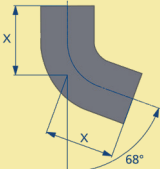
3000 mm PIPE		DN	kg/pcs.	ART.NR	PU
		50	13.0	28163	37
		70*	17.7	28164	41
		75-S	17.0	28158	41
		80	18.9	28165	38
		100	25.4	28159	38
		125	35.7	28160	23
		150	42.5	28161	20
		200	69.8	28162	10
15° BEND		DN	kg/pcs.	ART.NR.	x
		50	0.4	28258	40
		70*	0.6	28259	45
		75-S	0.6	28260	45
		80	0.7	28261	45
		100	1.0	28253	50
		125	1.8	28254	60
		150	2.6	28255	65
		200	4.6	28256	80
30° BEND		DN	kg/pcs.	ART.NR.	x
		50	0.5	28269	45
		70*	0.7	28270	50
		75-S	0.7	28271	50
		80	0.8	28272	50
		100	1.3	28264	60
		125	2.1	28265	70
		150	3.0	28266	80

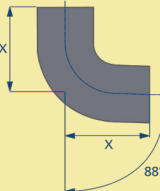
75-S = Scandinavian norm. Further products available on request

\* DN70: expires 2022

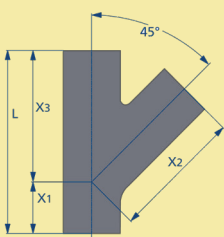


45° BEND	DN	kg/pcs.	ART.NR.	x
	50	0.5	28278	50
	70*	0.9	28280	60
	75-S	0.8	28283	60
	80	0.9	28285	60
	100	1.6	28155	70
	125	2.3	28275	80
	150	3.5	28276	90
	200	5.7	28277	110

68° BEND	DN	kg/pcs.	ART.NR.	x
	50	0.7	28295	65
	70*	1.1	28296	75
	75-S	1.1	28297	75
	80	1.2	28298	80
	100	1.9	28291	90
	125	2.9	28292	105
	150	4.1	28293	120

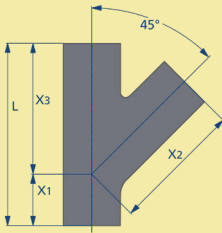
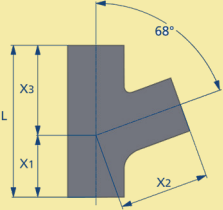
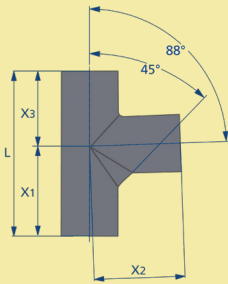

88° BEND	DN	kg/pcs.	ART.NR.	x
	50	0.7	28305	75
	70*	1.2	28306	90
	75-S	1.2	28315	90
	80	1.3	28316	95
	100	2.1	28300	110
	125	3.2	28302	125
	150	4.3	28303	145

88° BEND WITH STRAIGHT LINE	DN	kg/pcs.	ART.NR	X1	X2	X3
	100	4.8	28250	70	312	291

45° BRANCH	DN	kg/pcs.	ART.NR	X1	X2	X3	L
	50 x 50	1.4	28200	50	135	135	185
	70 x 50*	1.6	28201	40	150	150	190
	70 x 70*	2.1	28202	55	160	160	215
	75-S x 50	1.6	28203	40	130	130	170
	75-S x 75-S	2.1	28204	55	160	160	215
	80 x 50	1.6	28205	45	135	135	180
	80 x 80	2.3	28206	60	155	155	215
	100 x 50	2.3	28180	35	165	165	200
	100 x 70*	3.0	28181	50	185	185	235
	100 x 75-S	3.0	28182	50	185	185	235
	100 x 80	3.0	28183	50	170	170	220
	100 x 100	4.4	28179	70	205	205	275
	125 x 50	3.2	28186	20	185	185	205
	125 x 70*	4.0	28187	40	200	200	240
	125 x 80	4.4	28188	51	189	189	240
	125 x 100	5.0	28184	60	220	220	280
	125 x 125	6.1	28185	80	240	240	320

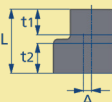
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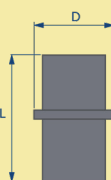
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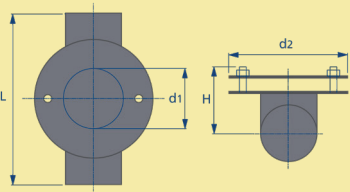
45° BRANCH	DN	kg/pcs.	ART.NR.	X1	X2	X3	L
	150 x 70*	5.3	28192	30	215	215	245
	150 x 80	5.3	28193	115	140	105	220
	150 x 100	6.5	28189	55	240	240	295
	150 x 125	7.2	28190	70	255	255	325
	150 x 150	8.3	28191	90	265	265	355
	200 x 125	11.6	28195	55	280	280	335
	200 x 150	13.3	28196	75	300	300	375
	200 x 200	17.2	28197	115	340	340	455
68° BRANCH	DN	kg/pcs.	ART.NR.	X1	X2	X3	L
	50 x 50	0.9	28214	55	80	80	135
	70 x 50*	1.0	28215	55	90	90	145
	70 x 70*	1.2	28207	70	100	100	170
	100 x 50	1.9	28209	55	110	100	155
	100 x 70*	2.4	28210	70	120	110	180
	100 x 100	2.9	28208	85	130	130	215
	125 x 100	3.9	28211	85	145	140	225
88° BRANCH	DN	kg/pcs.	ART.NR.	X1	X2	X3	L
	50 x 50	1.1	28233	79	80	66	145
	70 x 50*	1.3	28235	83	90	72	155
	70 x 70*	1.7	28236	97	95	83	180
	75-S x 75-S	1.6	28239	97	95	83	180
	80 x 50	1.4	28240	85	90	75	160
	80 x 80	1.8	28241	95	95	85	180
	100 x 50	2.1	28217	94	105	76	170
	100 x 70*	2.4	28218	102	110	88	190
	100 x 75-S	2.3	28219	102	110	88	190
	100 x 80	2.4	28220	100	110	90	190
	100 x 100	2.9	28216	115	115	105	220
	125 x 50	3.0	28223	98	120	82	180
	125 x 70*	3.6	28224	107	125	93	200
	125 x 80	3.4	28225	105	125	100	205
	125 x 100	4.0	28221	125	130	110	235
	125 x 125	4.6	28222	137	135	123	260
	150 x 50	4.4	28230	100	140	100	200
	150 x 100	4.7	28226	130	145	115	245
	150 x 125	6.2	28228	147	150	128	275
	150 x 150	6.9	28229	158	155	142	300
PLUG	DN	kg/pcs.	ART.NR.	L			
	50	0.3	28352	30			
	70*	0.4	28353	35			
	75-S	0.4	28347	35			
	80	0.5	28354	40			
	100	0.8	28348	40			
	125	1.1	28349	45			
	150	1.6	28350	50			
	200	3.1	28351	60			

75-S = Scandinavian norm. Further products available on request

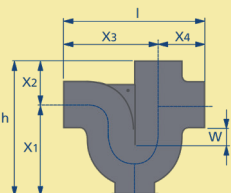
\* DN70: expires 2022

ECCENTRIC REDUCER	DN	kg/pcs.	ART.NR.	A	L
	70/50*	0.7	28406	10	75
	75-S/50	0.6	28407	10	75
	80/50	0.7	28408	13	80
	100/50	0.9	28390	25	80
	100/70*	0.9	28391	16	85
	100/75-S	0.9	28392	10	75
	100/80	1.0	28393	14	90
	125/50	1.4	28395	38,5	85
	125/70*	1.6	28396	28,5	90
	125/80	1.7	28397	26	95
	125/100	1.8	28394	12,5	95
	150/70*	2.2	28401	41	100
	150/80	2.3	28402	39	100
	150/100	2.4	28398	25	105
	150/125	2.6	28399	12,5	110
	200/100	4.1	28403	50	115
	200/125	4.1	28404	37,5	120
	200/150	4.3	28405	25	125

DOWNPIPE BRACKET	DN	kg/pcs.	ART.NR.	D	L
	80	1.8	28364	118	220
	100	2.7	28355	145	200
	125	3.0	28356	170	200
	150	4.0	28360	195	200
	200	5.9	28361	245	200

CLEANING PIPE WITH ○ COVER	DN	kg/pcs.	ART.NR.	H	d1	d2	L
	50	2.3	28370	59	53	105	190
	70*	2.8	28371	69	73	125	210
	75-S	2.8	28372	68	73	125	210
	80	3.5	28373	71	73	125	210
	100	4.8	28369	84	104	159	260

CLEANING PIPE WITH □ COVER	DN	kg/pcs.	ART.NR.	H	G	d	A	F	L
	100	7.0	28375	83	160	100	200	230	340
	125	10.0	28376	101	190	125	225	255	370
	150	12.8	28377	112	215	150	250	280	395
	200	25.2	28378	137	265	200	300	330	465

SIPHON	DN	kg/pcs.	ART.NR.	I	h	X1	X2	X3	X4	w
	50	2.9	28384	190	250	182	68	122	68	60
	70*	5.8	28385	265	293	200	93	172	93	60
	80	5.9	28386	265	293	200	93	172	93	60
	100	9.5	28380	325	392	282	110	215	110	100
	125	13.0	28381	390	446	316	130	260	130	100
	150	21.8	28382	470	493	348	145	325	145	100

75-S = Scandinavian norm. Further products available on request

\* DN70: expires 2022



# Couplings

## Compatibility and axial restraint

Axial restraint (bar)											Compatibility-chart				
											PREIS® Rapid Coupling	PREIS® Rapid Clamp	PREIS® CV Coupling	CV Clamp	Universal - clamp
	50	70*	80	75-S	100	125	150	200	250	300					
PREIS® Rapid coupling	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.3	0.3		✓	✗	✓	✓
PREIS® Rapid clamp	10	10	10	10	7	6	4	3	-	-	✓		✗	✗	✗
PREIS® CV - coupling	-	-	-	-	-	-	-	-	-	-	✗	✗		✓	✓
CV - clamp	10	10	10	10	10	5	5	3	-	-	✓	✗	✓		✗
Universal - clamp	-	-	-	-	-	-	-	Rapid 5	Rapid 5	Rapid 5	✓	✗	✓	✗	
	-	-	-	-	-	-	-	CV 5	CV 5	CV 3	✓	✗	✓	✗	

\*DN70: expires 2022

# Couplings and clamps

## Properties

PREIS® Rapid coupling with EPDM gasket		DN	PU	ART.NR.	Torque (Nm)
 <ul style="list-style-type: none"> <li>• Building component approved according to EN877</li> <li>• Material: chrom steel 1.4520</li> <li>• A special coating provides a high protection level against corrosion of all lockers and fittings</li> <li>• Axial restraint up to 0,5 bar inner pressure</li> <li>• Locked with only one screw (up to DN100)</li> <li>• Tightening without special tools, only visual check necessary</li> <li>• Quick assembly and disassembly</li> <li>• Integrated EPDM lining</li> <li>• High lateral rigidity enables the pipes to be pre-assembled</li> <li>• Meets the corresponding fire safety requirements</li> </ul>		50	100	20903	13-15
		70**	100	20904	13-15
		75-S	100	23335	13-15
		80	100	20905	13-15
		100	50	20906	13-15
		125	35	20907	13-15
		150	25	20908	13-15
		200	15	27193	13-15
PREIS® Rapid INOX coupling with EPDM gasket		DN	PU	ART.NR.	Torque (Nm)
 <ul style="list-style-type: none"> <li>• Applications: for underground laying and may also be exposed to all weather conditions for aggressive environments (when air contains salt,...)</li> <li>• Axial restraint up to 0,5 bar inner pressure</li> <li>• Locked with only one screw (up to DN100)</li> <li>• Materials: <ul style="list-style-type: none"> <li>- Coupling: stainless steel V4A 1.4571</li> <li>- Locked by a screw M6 x 45mm, 6mm</li> </ul> </li> <li>Hexagon socket: stainless steel A4-80 <ul style="list-style-type: none"> <li>- Clamping bolt: stainless steel V4A 1.4404</li> <li>- Rubber gasket for sound reduction: EPDM - Shore=55° +/- 5°</li> </ul> </li> </ul>		50	50	26680	13-15
		70**	50	26682	13-15
		75-S	50	26683	13-15
		80*	50	26684	13-15
		100	50	26685	13-15
		125*	35	26686	13-15
		150	25	26687	13-15

\* in preparation / PU = packing units / Art.Nr = article number

\*\* DN70: expires 2022

# Couplings and clamps



## Properties

PREIS® CV coupling with EPDM gasket	DN	PU	ART.NR.	Torque (Nm)
 <ul style="list-style-type: none"> <li>• Tried and tested coupling for all standard application in wastewater pipelines</li> <li>• Double screw locked</li> <li>• Suitable for situations with reduced height</li> <li>• May also be used for repair work</li> <li>• Does not meet the fire safety requirements</li> </ul>	50	100	18405	4-6
	70**	100	18406	4-6
	75-S	100	18408	4-6
	80	50	18407	6-8
	100	50	18409	10-12
	125	25	18410	10-12
	150	20	18411	10-12
	200	10	18412	15-20
PREIS® Rapid clamp	DN	PU	ART.NR.	Torque (Nm)
 <ul style="list-style-type: none"> <li>• Material: DD11 - galvanized</li> <li>• Clip collar with axial restraint</li> <li>• For internal pressure loads up to 10 bar</li> <li>• Two parts clip collar with claws and four Allen screws (up to DN 125)</li> <li>• The same tools to be used as PREIS® Rapid - couplings, therefore, no change of tools necessary - saves time</li> <li>• Applications: Pressurized pipes, rainwater and wastewater pipelines in areas affected by backwater</li> </ul>	50	25	21855	27-29
	70/80**	25	21856	27-29
	100	25	21857	27-29
	125	10	21858	27-29
	150*	10	21859	27-29
CV clamp	DN	PU	ART.NR.	Torque (Nm)
 <ul style="list-style-type: none"> <li>• Clip collar with axial restraint</li> <li>• For internal pressure loads up to 10 bar</li> <li>• Material: galvanized steel</li> <li>• Locker: galvanized steel</li> <li>• Screw size:               <ul style="list-style-type: none"> <li>- DN 50-80: cylinder head bolt with hexagon socket including flat washer M8 x 50</li> <li>- DN 100-150: cylinder head bolt with hexagon socket including flat washer M10 x 45</li> </ul> </li> <li>• Applications: Rainwater and wastewater pipelines in areas at risk from backwater</li> </ul>	50	10	24768	12-14
	70/75-S**	10	24769	12-14
	80	10	24770	12-14
	100	10	24771	32-35
	125	10	24772	32-35
	150	5	24348	45-49
	200*	1	24349	40-50

\* in preparation / PU = packing units / Art.Nr = article number


\*\* DN70: expires 2022





Konfix		DN	VE	ART.NR.	-
 <ul style="list-style-type: none"> <li>For connecting pipes to other materials (steel or plastics) to SML</li> <li>With NORMACLAMP® TORRO® in 12mm range; stainless steel band 1.4016, powerful worm thread clamp</li> <li>Material EPDM</li> </ul>		50	50	18240	-
		70**	50	19120	-
		80	20	19999	-
		100	20	18656	-
		125	10	19121	-
Rollfix		DN	VE	ART.NR.	-
 <ul style="list-style-type: none"> <li>For connecting cast iron pipes to HT-pipes or to PVC pipes with sockets or for connecting PVC-pipes to cast iron pipes with socket</li> <li>Saves time</li> <li>No double stock-keeping necessary (Mengenring and O-ring)</li> <li>Safe connection</li> <li>Material: EPDM</li> </ul>		50	1	25771	-
		70**	1	25772	-
		100	1	25773	-
		125	1	26305	-
		150	1	26308	-
		200	1	26309	-

\* PU = packing units / Art.Nr = article number

\*\*DN70: expires 2022

Universal coupling LP 0,6 bar*					
<b>Fields of application:</b> max internal pressure 0,6 bar without shear strength <b>Holding range:</b> from 24 to 225 mm <b>Recommended torque:</b> up to 100 mm-3 Nm/from 100 mm-6 Nm	Example:				
	Product denomination	Span d <sub>i</sub> (mm)	Profile width (mm)	Weight (kg)	
	ALP115	100-115	120	0.45	

Universal coupling HP 2,5 bar*					
<b>Fields of application:</b> max. internal pressure 2,5 bar, exposed to shear strength <b>Holding range:</b> from 55 to 385 mm <b>Recommended torque:</b> 10Nm	Example:				
	Product denomination	Span d <sub>i</sub> (mm)	Profile width (mm)	Weight (kg)	
	AHP115	100-115	120	0.80	

Universal joint 0,6 bar*						
<b>Fields of application:</b> up to 0,6 bar internal pressure, without shear strength <b>Holding range:</b> from 32 to 460 mm <b>Recommended torque:</b> up to 100 mm - 3 Nm / from 100 mm - 6 Nm	Example:					
	Product	Span A d <sub>i</sub> (mm)	Span B d <sub>i</sub> (mm)	Profile width (mm)	Weight (kg)	
	AUG1153	100-115	40-50	120	0.45	

\*) **Material:** Universal joints and universal couplings are made of high-quality, ozone-resistant EPDM-elastomer (ethylene-propylendiene-rubber). Clamping braces made from austenitic stainless premium steel (1.4301, V2A). **Resistance to chemicals:** Contact with benzine has to be avoided and it may to be exposed to oil or solvents only in very restricted circumstances. High resistance to acids and alkaline solutions. Suitable for underground installation Resistant to UV light. **Heat resistance:** between -40°C and +120°C

## PREIS® PEP (Pipe Edge Protection)

for PREIS® Drainage Systems cast iron  
drainage systems according to EN 877



### Areas of application:

Pipe Edge Protection for PREIS® Drainage Systems cast iron drainage pipe systems (KML + SML), used successfully in the tests with PREIS® KML according to DIN EN 877 and RAL GZ 698.

### Advantages:

- Separator with fingerlift for fast and easy detachment from the backing paper
- Fast and easy application to the cutting edge of the pipe
- quick installation without drying times

### Material:

Butyl rubber with special polyethylene film  
Silicone paper separation layer with fingerlift for easy removal

### Characteristics:

- mostly chemical resistant
- very good adhesion
- permanently flexible
- impermeable to water
- resistant to aging

### Storage:

store always cool and dry (+5°C bis +25°C) and UV-protected  
Minimum shelf life 24 month  
(at +5°C bis +25°C)

### Working temperature:

Processing from +5°C to +40°C

### Processing instructions:

first read and follow the installation instructions PREIS® PEP according to application instructions (Page 3) to process

## Assembly instruction

### Please note:

- PREIS® PEP is not resistant to oils and organic solvents (e.g. gasoline).
- If necessary, loosen the clamping screw of the connector before pushing it on.
- It is essential to use PREIS® PEP for cutting edges on KML pipes.
- PREIS® PEP is recommended as cut edge protection for SML pipes.
- Keep out of the reach of children!

You will find more information on the professional installation of PREIS® Drainage Systems in our technical documentation at [www.preisgroup.com](http://www.preisgroup.com)

Table longitudinal cutting

DN	Cut PREIS® PEP [mm]	Fertility PREIS® PEP [Edge/Tape]
50	170	58
70	230	43
75	220	45
80	250	40
100	330	30
125	410	24
150	490	20
200	640	15
250	840	11
300	1000	10



## Assembly instructions

**PREIS® PEP Instructions for use:**

After cutting the pipe, break sharp edges on the in- and outside

1.



2.



Clean up in- and outside of the tubes surface 3 cm wide, until it is dry, free of dust and grease.

3.



Cut **PREIS®PEP** on the length specified corresponding DN on the table (page 20).

4.



Remove the release film up to half the tape length.

5.



Position **PREIS®PEP** on the inside of the cut pipe so that half the width (approx. 15 mm) protrudes beyond the edge of the pipe.

Technical changes and misprints reserved.

Continue to 6 →

## Assembly instructions

6.



Firmly press **PREIS®PEP** on the inner tube without creases, remove the remaining release liner.

7.



Press **PREIS®PEP** firmly on the full inner tube circumference without wrinkles and tension.

**Attention: PREIS®PEP must not be stretched - tension forces!**

8.



The ends of the **PREIS®PEP** must overlap (approx. 10 mm), a gap is not permitted.

9.



Turn the **PREIS®PEP** inside out and press it all the way around on the outside of the pipe until the cut edge is completely surrounded by the **PREIS®PEP** special tape.

If necessary, loosen the connector slightly and place it on the **PREIS®PEP** protected pipe end as usual and screw it tight.

10.



**FINISHED!**

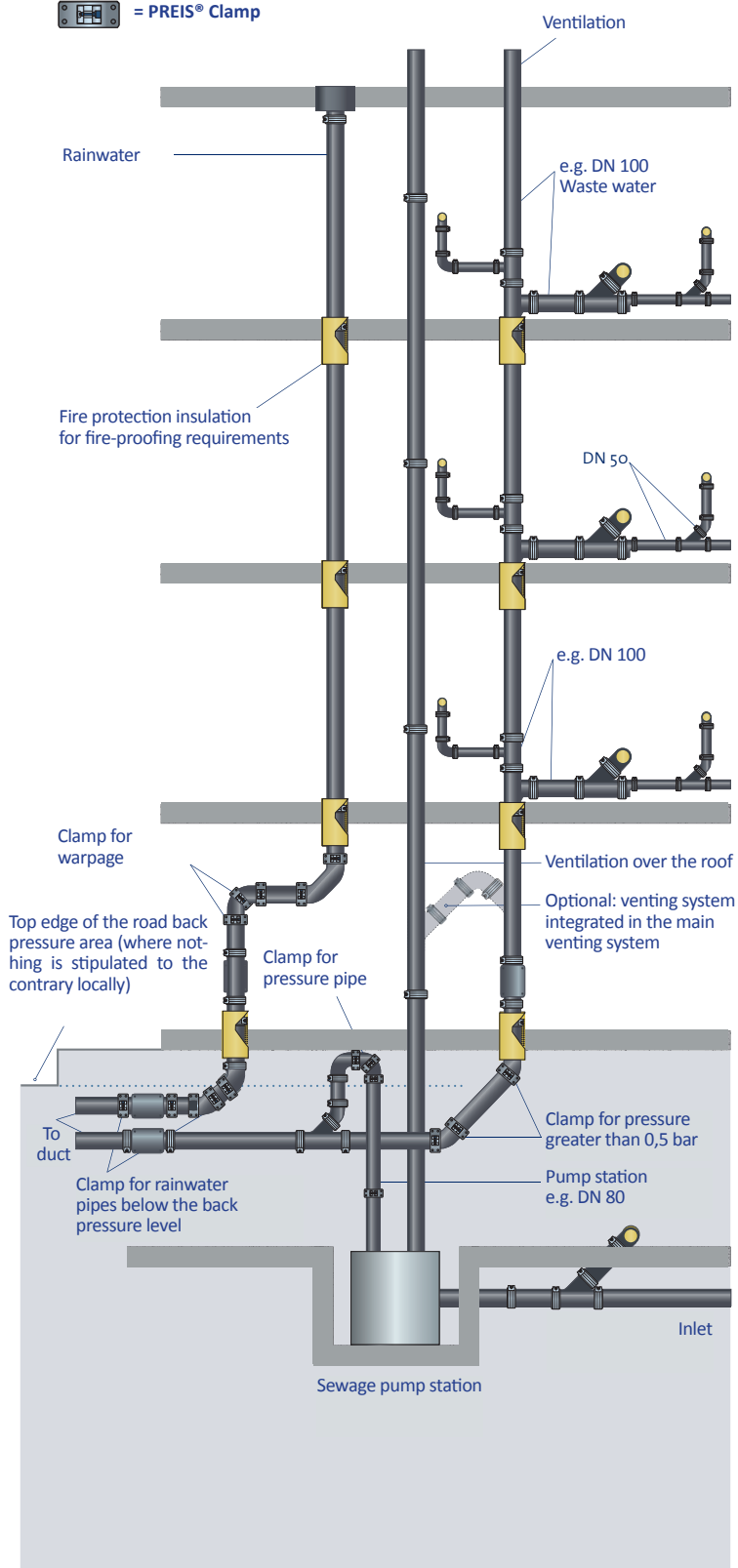
*Technical changes and misprints reserved.*

# Assembly and installation instructions



 = PREIS® Rapid coupling

 = PREIS® Clamp



**PREIS® KML pipes, fittings and coupling systems are produced and inspected according to EN 877.**

**The KML pipes are cut to the required length directly by the personnel working with the material. Pipes and fittings are joined with suitable pipe clamps.**

Horizontal pipes have to be adequately fastened at all turns and branches. Downpipes have to be fastened at a maximum distance of 2 m. In buildings with 5 floors or more, the downpipes of DN 100 or larger should be secured against sinking by means of a downpipe support. Additionally for higher buildings a downpipe support should be fitted at every subsequent fifth storey.

Drainage pipes are planned as unpressurized gravity flow lines. However, this does not prevent the pipe being under pressure if certain operating conditions occur. As drainage and ventilation pipes are subject to possible interactions between the pipes and their environment, they have to be permanently leak-tight against internal and external pressure of between 0 and 0,5 bar. To sustain this pressure, those pipe parts subject to longitudinal movement must be fitted along the longitudinal axis, properly supported and secured.

This kind of fitting has to be used whenever interior pressure exceeding 0,5 bar may arise in the drainage pipes, such as in the following case:

- **Rainwater pipes**
- **Pipes in the blackwater basin**
- **Wastewater pipes which run through more than one basement without further outlets**
- **Pressure pipes at wastewater pumps**

Non-friction-fitted pipelines subject to possible internal pressure or pressure developing during operation. These pipes must be provided with a suitable fixture, above all along in turn, to secure the axes from slipping apart and separating.

The required resistance of the pipe and fitting connections to longitudinal forces is achieved by installing additional clamps (internal pressure load up to 10 bar possible) at the joints.

*Further information on technical issues can be found in our brochure for technical specifications and details.*



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Your PREIS® KML sales representative: