



Quality Standard

Harmer SML meets the requirements of BS EN 877 and is manufactured under ISO 9001: 2000 Quality Management System (Certificate No.12 100 21864), and is approved under the British Board of Agrément (BBA Certificate No. 05/4191)

Material

Harmer SML drainage pipe systems are manufactured from grey cast iron according to EN 1561 to a minimum material grade of EN-GJL-150 (EN-JL1020).

Coatings

Soil and drainage pipe systems have to perform under extremely demanding conditions with domestic effluents containing aggressive cleaning agents and chemicals. The high-quality coating of Harmer SML goes beyond the requirements of BS EN 877 - see chemical resistance table below.

SML drainage pipes are externally protected with anti-corrosive primer coating, which meets fire classification A1. On the inside the pipes are coated with two-part epoxy coating which offers high resistance against chemical and mechanical damage.

Pipe Coatings

External surface – anti-corrosive primer coating

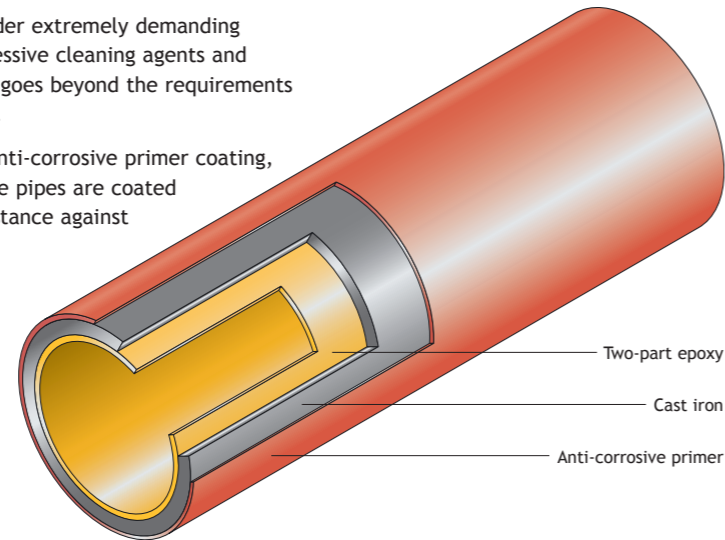
Colour: Red

Thickness: Minimum of 40 µm

Internal surface – two-part epoxy coating

Colour: Ochre

Thickness: Minimum of 120 µm



Fitting Coatings

SML fittings are internally and externally coated with red two-part epoxy coating, dip applied to a thickness of 60 µm.

Other Coatings

For below ground application and other aggressive conditions, Alumasc offer other coating systems. (See page 69 for details)

Consult Alumasc Technical Department for further details.

Chemical Resistance of Interior Coatings of SML Pipes

This table applies to applications with intermittent use.

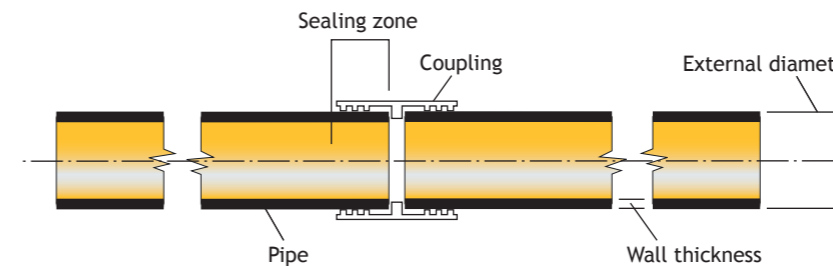
	Liquid	Up to 23°C	Up to 50°C	Up to 80°C
Acidic solutions	pH 0			
	pH 1 (except organic acids)			
	pH 2 (except organic acids)			
	Lime-dissolving substances			
	Cleaning products			
	Detergents			
	Disinfectants			
	Stain removers			
	Oxidants			
	Water (pH 7), salts			
Alkaline solutions	Drain clearing products			
	Solvents			
	pH 12			
	pH 13			
	pH 14			

Conditions where interior coatings meet chemical resistance requirements of BS EN 877

Conditions where interior coatings exceed chemical resistance requirements of BS EN 877

Pipe Weights and Dimensional Tolerances

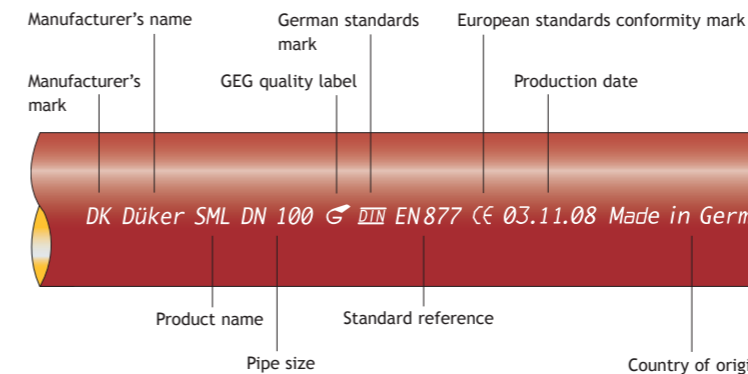
Nominal Pipe Dia (mm)	External Dia		Wall Thickness Min	Sealing Zone Min	Pipe Weight (kg/m)	
	Min	Max			Empty	Filled
50	57	60	3.0	30	4.3	6.4
70	77	80	3.0	35	5.9	9.9
100	109	112	3.0	40	8.4	17.7
125	133	137	3.5	45	11.8	24.5
150	158	162	3.5	50	14.1	32.3
200	208	212	4.0	60	23.1	54.6
250	271.5	276.5	4.5	70	33.3	87.7
300	323.5	328.5	5.0	80	43.2	120.8
400	426	431	5.0	80	60.0	196.2



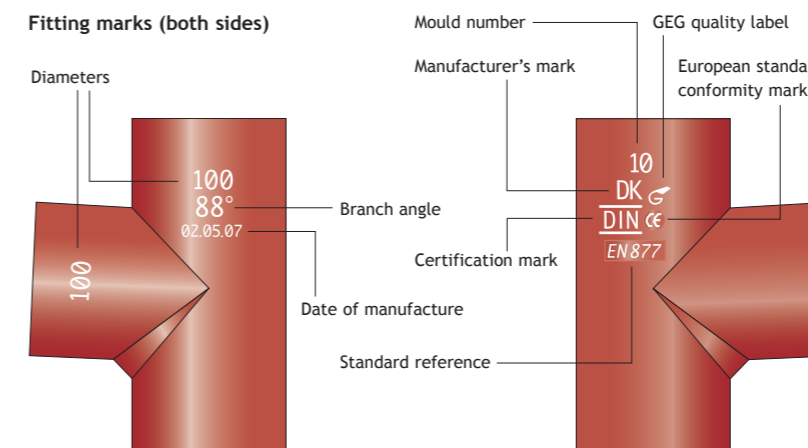
Product Identification

SML pipes and fittings are labelled during manufacture in accordance with the standard BS EN 877 and can be clearly identified as indicated below.

Pipe marks



Fitting marks (both sides)



Tolerance Definitions

Weights

BS EN 877 stipulates: "The nominal masses of finished products (pipes, fittings and accessories) shall be given in the manufacturers' catalogues. When measured in accordance with Table 5.3 of the standard, the lower deviation shall not exceed 15% of the nominal mass".

Lengths

In accordance with clause 4.2.9 of BS EN 877, lengths of fittings shall be within a tolerance of ±5mm. Lengths of pipes shall be within a tolerance of ±20mm when measured in accordance with clause 5.2.7 of the standard.

Sealing zone

Ovality of pipes and the sealing zone of fittings shall remain within the tolerance of the external diameter.

Flow Capacities of Soil and Waste Systems

Maximum flow capacities (litres per second) of SML pipes, flowing at various gradients, with pipes flowing full (ks value = 0.6).

Pipe Dia (mm)	1:40 (l/s)	1:60 (l/s)	1:80 (l/s)	1:100 (l/s)
50	1.46	1.19	1.03	0.92
70	4.29	3.50	3.03	2.71
100	9.24	7.55	6.54	5.50
125	16.8	13.7	11.9	10.6
150	27.3	22.3	19.3	17.2
200	58.7	47.9	41.5	37.1
250	106.0	86.9	75.2	67.3
300	173.0	141.0	122.0	109.0
400	416.7	339.9	294.1	262.82

System design may limit soil and waste flow rates below these values. Higher flow rates will be possible for rainwater pipework.

For vertical flow capacities refer to BS EN 12056: 2000, Parts 2 and 3.

