

Emiplast S.Line

Silent Discharge System

12 dB

Sound Insulation Level III



Emiplast S.Line

Silence is an important essential of human living. Only seldom we experience true silence in our surroundings. It is precisely this pleasant quietness which distinguishes the Emiplast S.Line discharge system from others.







Benefits and Advantages of the System Material Properties

Don't give noise a chance !

Emiplast S. Line meets the maximum requirements of the enhanced Sound Insulation Class III of DIN 4109 and VDI 4100. During tests carried out at the Fraunhofer Institut für Bauphysik in Stuttgart in 2002 Emiplast S.Line, demonstrated its excellent sound absorbing properties under practical installation conditions - measured according to Test Reports P-BA 340/2002 and P-BA/341/2002 with commercial pipe clamps.

Strength and stability

Emiplast S.Line is long-lasting, corrosion-proof and provides resistance to aggressive waste water. There are no incrustations thanks to the smooth surface. It is available from di-mensions DN 56 to DN 200. The reliable push-fit connection makes the system easy to install and fulfils all requirements.

Quality guarantee

Our Emiplast S.Line pipes and fittings are quality labelled and are subject to constant quality checks. We run a certificated quality management system based on DIN EN ISO 9001, Reg. No. 289722-QMO 8, environment ISO : 14001 : 2004.

Quality of living

Emiplast S.Line fulfils the ecological and economical expectations particularly in the matter of raised demands in housing and decisively contributes to raising the quality of living and increasing the value of property.

Just trust what you hear

The unique low-noise Emiplast S.Line system is a top quality product made of mineralrein-forced polypropylene. This base material provides Emiplast S.Line with excellent mechanical and acoustic properties. It thus has those ideal requirements to be used in a pioneering way in any area of building construction (including houses, blocks of flats, industrial buildings, hospitals and hotels).

Sound development in the waste water pipe

Impact and flow noises are responsible for airborne and structure-borne sounds developing at piping walls. For instance, the impacting of waste water, which can reach relatively high speeds, induces noise at many points such as bends, pipe branches and collecting pipes. The biggest problem facing building engineering is with the transfer of structure-borne sound at the point of pipe fixing and where the pipes are installed in walls and ceilings.

Emiplast S.Line stops noise

Emiplast S.Line - the original soundproof pipe system – is a sound-absorbing, hot water resistant pipe system suitable for all pressureless waste water pipes in acc. with DIN EN 12056 and DIN 1986-100. The fact that pipes and fittings are made of mineral-reinforced polypropylene ensures continuous sound insulation. Thanks to the molecular structure and the high density of 1.6g / cm³ (+/- 0,05) for pipes and fittings, both the airborne and structure-borne sounds can be dampened.

- WALL THICKNESS = QUIETNESS = PLEASANTNESS OF LIVING
- VALUE 12DB (A) ACC. TO DIN 4109 AND VDI 4100
- CORROSION-PROOF
- EASY-TO-INSTALL
- DIN EN ISO 9001
- CONSTANT QUALITY CHECKS
- INCREASES THE PROPERTY VALUE
- FULFILS ECONOMIC AND
 ECOLOGICAL CRITERIA
- FOR USE IN ALL AREAS OF BUILDING CONSTRUCTION
- EXCELLENT MECHANICAL AND ACOUSTIC PROPERTIES
- AIRBORNE NOISE
- STRUCTURE-BORNE NOISE

- EXTREMELY SOUND ABSORBING 12dB
- STOPS SOUNDS BEING TRANSFERRED



Emiplast S.Line

Soundproof Pipe System

Description

Discharge pipes and fittings of mineral-reinforced polypropylene. The requirements of DIN EN 1451-1 in association with DIN 19560-10 apply. Production acc. to Z-42.1-217

Application

In view of the excellent mechanical and acoustic properties, this system is suitable for all fields of building construction.

Colour

Dark Blue RAL 7035.

Nominal diameter

50, 75, 90, 110, 125, and 160 mm.

Chemical resistance

Discharge of aggressive media in the range of pH 2 to pH 12 – see supplementary sheet 1 on DIN 8078

Use in central vacuum cleaning systems

Emiplast S.Line has been authorised by the Staatliche Materialprüfungsanstalt Darmstadt for use in central vacuum cleaning systems. Maximum continuous vacuum negative pressure load: DN 56 to DN 150 0.5 bar.

Quality assurance

Emiplast S.Line pipes and fittings are quality labelled and are subject to constant quality controls. Quality management according to DIN EN ISO 9001, environment.

Associated documents

a) Laying instruction of KRV e.V. Bonnb) List of the mechanical and thermal properties



DN(OD)	d ₁	s [mm]	D [mm]	t [mm]	kg/m
50	50	4,0	76	55	1,40
75	75	4,5	97	61	1,75
90	90	4,5	110	55	2,34
110	110	5,3	132	76	3,55
125	125	5,3	158	61	4,40
160	160	5,3	185	64	5,15

Emiplast S.Line Product range



Single socket pipe (push-fit)

Emiplast S.Line – Pipe



No.	DN	L [mm]	m [kg]	Unit
20100	50	150	0,30	4/660
20110	50	250	0,42	4/440
20120	50	500	0,78	4/220
20140	50	1000	1,31	1/114
20160	50	2000	2,78	1/114
20200	75	150	0,46	4/360
20210	75	250	0,64	4/240
20220	75	500	1,09	4/152
20240	75	1000	1,98	1/70
20260	75	2000	3,77	1/70
20800	90	150	0,54	4/224
20810	90	250	0,75	4/168
20820	90	500	1,27	4/100
20840	90	1000	2,31	1/60
20850	90	2000	4,40	1/60
20300	110	150	0,78	4/180
20310	110	250	1,08	4/120
20320	110	500	1,83	2/78
20340	110	1000	3,33	1/40
20360	110	2000	6,33	1/40
20400	125	150	0,96	1/120
20410	125	250	1,34	1/96
20420	125	500	2,26	1/48
20440	125	1000	4,12	1/24
20460	125	2000	7,84	1/24
20500	160	150	1,32	1/84
20510	160	250	1,77	1/48
20520	160	500	2,88	1/35
20540	160	1000	5,01	1/21





Plain End Pipe

No.	DN	s [mm]	l [mm]	m [kg]	Unit
205040	50	4,0	3000	3,54	1/114
207545	75	4,5	3000	5,37	1/70
209045	90	4,5	2000	4,17	1/60
209045	90	4,5	3000	6,25	1/60
2011053	110	5,3	3000	9,00	1/40
2012553	125	5,3	3000	11,15	1/24
2016053	160	5,3	3000	13,31	1/21

Emiplast S.Line - Fitting

No.	DN	α	z ₁ [mm]	z ₂ [mm]	m [kg]	Unit
215045	50	45°	14	16	0,20	4/1000
217545	75	45°	18	31	0,29	4/600
219045	90	45°	20	25,5	0,42	4/320
2111045	110	45°	25	29	0,52	4/240
2112545	125	45°	30	34	1,02	4/140
2116045	160	45°	37	45	1,32	4/60



Elbow - Bend 87°

Elbow - Bend 45°

No.	DN	α	z ₁ [mm]	z ₂ [mm]	m [kg]	Unit
215087	50	87°	32	35	0,22	4/880
217587	75	87°	40	43	0,35	4/480
219087	90	87°	46	49,5	0,50	4/260
2111087	110	87°	69	70,5	0,72	4/160
2112587	125	87°	96	102	1,18	4/96
2116087	160	87°	84	91	1,64	4/60





Dianon io

No.	DN	α	z ₁ [mm]	z ₂ [mm]	z₃ [mm]	m [kg]	Unit
2250	50/50	45°	13	74	74	0,46	4/60
225075	75/50	45°	3	88	85	0,55	4/320
2275	75/75	45°	20	98	98	0,65	4/260
229050	90/50	45°	3	97	84	0,64	4/224
2290	90/90	45°	20	110	110	0,88	4/180
2211050	110/50	45°	17	108	95	0,69	4/180
2211075	110/75	45°	6	122	115	0,99	4/140
22110	110/110	45°	25	136	136	1,20	4/100
22125110	125/110	45°	11	155	152	1,88	2/70
22125	125/125	45°	49	169	169	2,26	2/56
22160125	160/110	45°	2	168	159	2,09	2/50
22160	160/160	45°	36	194	194	2,88	2/24
22200160	200/160	45°	19	221	218	4,05	1/20
22200	200/200	45°	46	244	244	4,76	1/15





Tee - Branch 87°

No.	DN	α	Z₁ [mm]	Z ₂ [mm]	Z ₃ [mm]	m [kg]	Unit
2350	50/50	87°	33	34	34	0,34	4/500
237550	75/50	87°	32	43	32	0,46	4/360
2375	75/75	87°	40	43	43	0,49	4/320
239050	90/50	87°	32	48	31	0,64	4/272
239075	90/75	87°	43	49	40	0,77	4/220
2390	90/90	87°	56	70	51	0,88	4/160
2311050	110/50	87°	28	60	32	0,62	4/200
2311075	110/75	87°	40	60	45	0,84	4/160
23110	110/110	87°	57	59	59	0,91	4/140
23125110	125/110	87°	70	73	72	1,55	4/80
23125	125/125	87°	70	72	72	1,69	4/80

Single socket

No.	DN	D ₁ [mm]	D ₂ [mm]	l [mm]	m [kg]	Unit
2450	50	74	79	117	0,24	4/1000
2475	75	95	100	119	0,31	4/640
2490	90	108	110	120	0,30	4/416
24110	110	129	132	124	0,49	4/300
24125	125	156	159	142	0,77	4/160
24160	160	183	184	144	0,94	4/120
24200	200	235	225	228	2,00	1/45



D ₁	
	L
	-
	,
D ₂	

End Cap – Plug

No.	DN	L [mm]	m [kg]	Unit
2550	50	49	0,12	4/2380
2575	75	52	0,20	4/1372
2590	90	38	0,16	4/720
25110	110	57	0,35	4/720
25125	125	60	0,52	4/376
25160	160	49	0,51	4/260
25200	200	84	0,53	1/160





Double Socket - Coupler

No.	DN	l [mm]	m [kg]	Unit
2650	50	105	0,17	4/1100
2675	75	107	0,25	4/640
2690	90	98	0,16	4/320
26110	110	125	0,41	4/300
26125	125	123	0,65	4/180
26160	160	129	0,92	4/96
26200	200	239	1,30	1/54





Reducer Socket - eccentric

No.	DN	l [mm]	L [mm]	m [kg]	Unit
277550	75/50	102	60	0,20	4/1000
279050	90/50	84	65	0,25	4/864
279075	90/75	105	60	0,26	4/800
2711050	110/50	102	61	0,31	4/800
2711075	110/75	102	61	0,32	4/800
2711090	110/90	127	58	0,36	4/540
27125110	125/110	133	90	0,68	4/240
27160110	160/110	195	100	0,97	4/240
27160125	160/125	190	100	1,01	1/120
27200160	200/160	272	143	1,32	1/60



Reducer Socket

No.	DN	l [mm]	L [mm]	m [kg]	Unit
275040	50/40	89	60	0,04	4/1000
277550	75/50	110	76	0,06	4/1140





Siphon bend 90° (Gasket for siphon bend see Accessories)

No.	DN	D ₁ [mm]	z ₁ [mm]	z ₂ [mm]	m [kg]	Unit
38250	50/40	50	30,5	25	0,05	4/1200

Inspection pipe

No.	DN	L [mm]	m [kg]	Unit
38110	50	151	0,37	4/480
38210	75	208	0,59	4/320
38810	90	170	0,87	4/240
38310	110	298	1,58	4/96
38410	125	316	3,46	2/40
38510	160	345	3,65	1/40









Returr	n air bend	135°							
No.	DN	α	Z ₁ [mm]	Z ₂ [mm]	Z ₃ [mm]	Z ₄ [mm]	a [mm]	m [kg]	Unit
37370	110/110/110	135°	78	58	44	44	19,5	1,27	1/110

Long bend 45°

No.	DN	α	t [mm]	ا [mm]	D ₁ [mm]	Z ₁ [mm]	Z ₂ [mm]	m [kg]	Unit
37380	110	45°	57	250	110	24	28	1,43	2/112

Emiplast S.Line – Accessories

Gasket for siphon bend

No.	DN	m [kg]	Unit
38260	40/30 B	0,03	-
38270	40/40 C	0,02	-

Lubricant

No.	m [kg]	Unit
39010	0,15	50/1750
39110	0,25	50/1800
39210	0,50	24/864

Safety clamps for plugs

No.	DN	m [kg]	Unit
39100	50	0,10	-
39200	75	0,13	-
39800	90	0,18	-
39300	110	0,20	-
39400	125	0,25	-
39500	160	0,31	-

Connection clamp to cast iron pipes / steel pipes

No.	DN	m [kg]	Unit
39160	50	0,15	-
39260	75	0,17	-
39860	90	0,19	-
39360	110	0,21	-
39460	125	0,23	-
39560	160	0,25	-











Lip seal

No.	DN	m [kg]	Unit
39120	50	0,01	-
39220	75	0,01	-
39820	90	0,02	-
39320	110	0,02	-
39420	125	0,04	-
39520	160	0,05	-

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gasket (oil and fat resistant)

No.	DN	m [kg]	Unit
39125	50	0,008	-
39225	75	0,010	-
39825	90	0,012	-
39325	110	0,230	-
39425	125	0,300	-
39525	160	0,450	-

Gasket for Single sockets

No.	DN	m [kg]	Unit
39130	50	0,03	-
39230	75	0,04	-
39830	90	0,05	-
39330	110	0,06	-
39430	125	0,11	-
39530	160	0,13	-



Pull-out protection

No.	DN	Sleeve size	m [kg]	Carton	Unit
39105	DN 50	58	0,105	50	1
39205	DN 75	82	0,141	30	1
39905	DN 90	100	0,155	20	1
39305	DN 110	120	0,187	20	1
39405	DN 125	135	0,276	9	1
39505	DN 160	170	0,403	10	1



Fire protection sleeve

No.	Sleeve size	m [kg]	Carton	Unit
39730	58	0,101	25	1
39735	82	0,127	25	1
39740	100	0,213	10	1
39745	120	0,236	10	1
39750	135	0,807	5	1





Sound Insulation

The Emiplast S.Line Soundproof Discharge System – High degree of sound insulation

System description

Emiplast S.Line, represents a complete range available to you in DN 50 to DN 200 nominal diameter. It is suitable for all pressureless waste water pipes in acc. with DIN EN 12056 and DIN 1986-100.

Pipes and fittings consist of mineral-reinforced polypropylene and are resistant to hot water. The consistently thick-walled pipes and fittings meet the raised requirements of Sound Insulation Class III of DIN 4109 / VDI 4100.

Just as with all synthetic materials, Emiplast S.Line, is corrosion-proof, long-lasting and resistant to chemically aggressive waste water in the range of pH 2 to pH 12. The smooth inner surfaces and high degree of resistance to abrasion make sure that no deposits develop and this, in turn, ensures that the pipes can be reliably operated for a very long time.

Sound insulation

Tests conducted by the Fraunhofer Institut in July 2002 in accordance with DIN EN 14366 confirmed the excellent sound insulation properties and the maximum Sound Insulation Class III requirements. It has been proved for many years now on the physical construction side that thick-walled pipe systems with very high molecular weight minerals have excellent sound insulation properties.

The high density of 1.6 g/cm3 (+/- 0,05) contributes to the absorption of sound which is transmitted by air and conducted by solids.

Sources of noise in building equipment

The sources of noise in building services installations are:

- Filling noises
- Intake noises
- Noises from fittings
- Draining noises
- Impact noises

How does sound develop in building equipment?

The biggest problem in building equipment is where structureborne noise is transmitted at the point of pipe fixing and where pipes are installed in walls and ceilings.

The following are the most important steps in actively furthering sound insulation:

- · No sound bridges to adjacent rooms with pre-wall installation. The pre-wall installation is to be acoustically disconnected
- No exposed installation of waste water pipes on the walls of rooms to be sound insulated
- Use of low-noise fittings of Group I as per DIN 52218
- Use of walls which are suitable for installations, e.g. 220 kg/m² (large mass)
- In waste water system pipe planning, no waste water pipes are to be installed in partition walls between flats/ houses

- pipes are to be jacketed in insulating material as conforming to the requirements of sound/heat insulation and fire protection when installed in walls and ceilings/ floors
- Acoustically favourable floor plans should be drawn up so that rooms in need of sound insulation are not arranged directly next to rooms with sanitary installation-equipped walls or under bathrooms/toilets.

DIN 4109

Recommendation for normal sound insulation according to Supplement 2 to DIN 4109.

VDI 4100

Compared to the DIN 4109 requirements taken on as Sound Insulation Class Stage I (SST I), this regulation includes characteristic values for the two others Sound Insulation Classes - namely SST II and SST III. An enhanced level of sound insulation is detailed in these two sound insulation stages.



A: DIN 4109 (official public

B: DIN 4109 Supplement 2 C: VDI 4100 Sound Insulation Stage II minimum requirement) D: VDI 4100 Sound Insulation Stage III

Basic terms and sound insulation minimum requirements

Anyone in rooms which require sound insulation on the basis of DIN 4109 is to be protected from outside noise, noise from other rooms (music, voices, steps etc.) and noises coming from building engineering installations and from operations in the same building.



DIN 4109 + additional table A1 30 dB(A) apartment blocks - from 2 apartments, in rooms in need of sound insulation max. 30 dB(A). Improved sound insulation possible - has to be agreed in a service contract!



6)

Sound Insulation Class II apartment blocks 20 dB(A) **(SST II)**

Sound Insulation Class I 25dB (A)

Sound Insulation Class III apartment blocks 18 dB(A) (SST III)

Benefits - DN 90

DN 90 can now be used for collecting pipes, downpipes and pipelines. As a result, a complete discharge pipe can now be installed with only two dimensions (DN 50 and DN 90). DN 90 also provides other benefits such as little space needed in the supply shaft and in pre-wall installation. The smaller diameter ensures effective automatic cleaning in the pipe.

A DN 90 collecting pipe can be used:

- Up to a 10 m length
- For connecting a maximum of 2 six litre flushing tanks
- For connecting a maximum of 6 sanitary items
- Given a gradient of 1 cm/m (1:100)
- With a max. 3 changes of direction of 90° or 2 x 45°

Approvals and tests

Emiplast S.Line pipes and fittings are of an assured quality and subject to constant quality checks. They are provided with general construction supervision approval with Approval No. Z-42.1-217 of DIBT (German Institute of Construction Technology), Berlin.

Technical data

Material

Emiplast S.Line, mineral-reinforced polypropylene

Sound insulation

Sound-adsorbing, DIN 4109, VDI Regulation 4100 Value: 20 dB (A)

Emiplast S.Line, measurement and evaluation as to DIN EN 14366 dated April 2002, result of the Fraunhofer Institut measurement of 31 July 2002 20 dB(A) Soundproofing with Bismat standard 108-114 clamps 12 dB(A) Comfort soundproofing with Bismat soundproof pipe clamps "type 1000"

Marking

Emiplast S.Line, standard diameter, year of manufacture, registration number, material, building material class (fire behaviour)

Registration number

Emiplast S.Line, pipes and fittings bear the registration number Z-42.1-217 of DIBt, Berlin.



Fire protection

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Emiplast S.Line with pipe clamps"Bismat 108-114" respectively "Bismat 1000"

The Emiplast S.Line fire protection provides practical and reasonably priced solutions for fire protection in buildings. The Ostendorf BS fire sleeve generation features not only reduced dimensions but also the fire retarding of many special solutions, such as socket seal-off in the fire sleeve. The Emiplast S.Line fire sleeve can seal off all Eppinco house drainage pipe systems. This and other outstanding features provide for considerable flexibility in the implementation of your building projects. The Emiplast S.Line fire sleeve is designed and approved especially for soundproof pipe systems (Z-19.17-1651). The fact that the fire sleeve consists

of two half shells also makes it possible for Installation to be done at a later stage. "Zero spacing" – the gap between adjoining fire sleeves can be 0 mm – ensures maximum flexibility in planning.

By turning over the retaining tabs, the Emiplast S.Line fire sleeve can be both bed in mortar and plugged.

Introduction of the 2002 Model Building Regulation (MB0) and the 2005 Model Pipe Line System Provision (MLAR) have both defined the goal of preventing fires in buildings.

OVER	VIEW OF THE BUILDI	NG CATEGORIES AN	ND REQUIREMENTS	PLACED ON PIPES	PENETRATING WAL	LS AND CEILINGS A	ACC. TO MBO 2002
		GK 1 (a + b)	GK 2	GK 3	GK 4	GK 5	Special Buildings
RISTICS	Illustration						and a
Ë	мво	§2 (3)1)	§2 (3)1)	§2 (3)1)	§2 (3)1)	§2 (3)1)	§2 (4) ²⁾
BUILDING CHARAC	Statement (OKFFB = Top edge of finished floor of day rooms to top edge of earth	Detached building ≤ 7m OKFFB - max. 2 useable floor units - total ≤ 400m2 or detached agricultural or forestry utilized building	Building ≤ 7m OKFFB - max. 2 useable floor units - total ≤ 400m ²	Other buildings ≤ 7m OKFFB	Other buildings ≤ 13m OKFFB - Useable floor units each under 400m ²	Other buildings ≤ 22m OKFFB	e.g. - Hotels - Kindergartens - Schools - Sports centres and halls - Hospitals of any height and high-rise buildings
	Comment	Detached house, Small office buildings	Semi-detached house, Row of houses	Apartment blocks, Office buildings	Apartment blocks, Office buildings	partment blocks, Office buildings	
٨	Structural components of basement ceilings MBO §31(2)	F 30 (No requirements placed on fire protection; observe sound and thermal insulation aspects!)	F 30 (No requirements placed on fire protection; observe sound and thermal insulation aspects!)	F 904)	F 90	F 90	F90 / F 120 ³⁾
INT PROPERT	Upper storey ceiling structural components MBO §31(1) ²⁾	No requirements placed	F 30 ²⁾ (No requirements placed on fire protection; observe sound and thermal insulation aspects!)	F 30 ²⁾	F 60* / F 90 ²⁾	F 90 ²⁾	F 90 ²⁾
. COMPONE	Space-enclosing partition walls in upper storeys (e.g. apartment partition wall)	No requirements placed	F 30	F 30	F 60* / F 90	F 90	F 90 ³⁾
UCTURAL	Walls of required corridors and exits to the outside MBO §36(4)	No requirements placed	No requirements placed	Upper storey: F 30 Basement: F 30	Upper storey: F 30 Basement: F 90	Upper storey: F 30 Basement: F 90	Upper storey: F 30 Basement: F 90
STR	Walls of required staircases MBO § 35(4)	No requirements placed	F 30-A	F 30-A	F 60-A* / F 90-A	F 30-A	F 30-A ³⁾
	Fire walls/building partition walls MBO § 30(3)	No requirements placed	F 60-AB* / F 90-AB	F 60-AB* / F 90-AB	F 60-AB* / F 90-AB	F 90-A	F 30-A ³⁾

¹⁾ In acc. with §40 no requirements are placed on the sealing of pipe systems, installation shafts and channels within flats/apartments and useable floor units not exceeding 400 m² in not more than 2 useable floor units.

²⁾ Given that there is no day room in the loft, then no particular requirements are placed on ceilings in lofts and for flat roofs.

³ Particular requirements apply to special-purpose buildings. These can be taken from the special purpose building directives and/or respective specific fire protection concept as an integral part of building approval.

⁴⁾ F30 requirements for supporting structural parts (walls and ceilings) in basements hold good in Bavarian, Hesse and Hamburg.

* Sealings for F 60 structural components are not currently available on the market. For this reason sealings for F 90 structural components are to be used to ensure that the protection goal requirements can be met!

Their implementation has considerably eased the work of the technical planner. DIN 4102 (fire protection) and DIN 4109 (sound insulation) also apply.

The compressed explanations here are to help the interested user in avoiding any planning and implementation errors. To this end, Table 1 charts the MBO 2002 building categories and requirements placed on the structural parts of these buildings. Pipes which, for instance, penetrate these structural parts in the course of equipping the building must have a proper fire stop to shut off any fire or smoke. These pipe seals can be achieved in R90 quality with the **Emiplast S.Line** fire protection. Since the Emiplast S.Line fire sleeve has been tested and approved for practically all fitting situations, such as inclined fittings and socket installation at the sleeve, It offers maximum flexibility. If you would like more information on Fire Protection contact us under +9717-2589151

Installation



Installation in ceilings \geq 150 mm



Installation in wall (lightweight partition wall or solid wall) \geq 100 mm

Technical Drawings



Application table

Pipe-		Sle	No. Fastening	
NO.	outside Ø mm	inside Ø mm d	outside-Ø mm D	brackets
39730	50	56	69	4
39735	75	81	94	4
39740	90	96	114	4
39745	110	116	134	4
39750	160	164	188	4

Installation Instructions



Install pipe (and possibly the sound insulation flexible tube included in the supply)



Close remaining or ring gap in a flue gas-tight manner



Select sleeve size



If necessary, mark and construct the fixing points



Plugging the retaining tab with the jointly supplied fixing set (as an option the tabs can also be bent through 90° and bedded in plaster!)



Fill in the supplied identification plate and attach next to the fire-retarding seal.

Special applications



Straight pipe penetration (possibly with sound insulation hose ≤ 4 mm)



Straight pipe bushing with socket at the sleeve



Inclined bushing



Zero spacing one under the other

Seal-offs in existing ceilings (special-purpose ceilings)

According to Useability Certificate (ABP/ABZ) for pipe and/or cable sealing, special-purpose ceilings are different to a solid ceiling. These ceilings must have a lining at the fire protection seal. In the case of "special-purpose ceilings", these seals are only to be fitted inside structurally non-supporting ceiling areas. At all events it is recommended consulting a structural analyst.

As detailed in ABP/ABZ, the planned pipe or cable sealing is fitted inside the lining using a concrete or mortar casting. The minimum component thickness as per useability certificate must be adhered to. The component rebate could protrude should the minimum component thickness for the sealing step vary from that of the structural pNo.

The fitting deviation of the sealing in accordance with building regulations as against the solid ceiling must be agreed upon beforehand with the project manager responsible, architects and/or fire protection specialist monitoring the work.. The following documents should be made available:

- Planning and fire-retarding sealing
- Detailed diagram and description of the constructional fitting situation
- Expert opinion involving project-specific classification of the deviation (major or minor deviation)
- Application by the house builder or his representative for deviation approval from the "Building requirements introduced (ETBs)" at the secondary-level building authority.

Given that classification is judged to represent a major deviation from the Useability Certificate (ABP/ABZ), the house builder or his representative must apply for approval in individual instances from the first-level building authority.



Wooden beam ceiling without ceiling substructure



Ribbed or brick element ceiling



Beamed ceiling





Cap ceiling







Steel support composite ceiling

Installation Instructions



TRANSPORT. HANDLING AND STORAGE 1.

Emiplast S. Line pipes must not be bent during transport; the full length of the pipes should be supported. The pipes are to be laid down in such a manner that no damage occurs through deformation. Sockets must be unencumbered all around. At the construction site, stacking must not be carried out in ex-cess of 1.50 m even if wood is laid down in between layers. Sealing elements may not be stored outside for longer than 2 years.

CUTTING THE PIPES TO LENGTH 2.

The pipes can be cut to length with a commercial pipe cutter or with a fine-toothed saw. The cuts are to be made at an angle of 90° to the pipe shaft. Remove any trimmings or bumps at the disconnecting point. The cutting edges are to be smoothened on the inside and on the outside.



Emiplast S.L CONNECTIONS 3.

PUSH-FIT CONNECTIONS WITH 31 GASKET (SINGLE SOCKET)

Single sockets are equipped with larger sealing element: These gaskets are the standard connection between pipes and fittings. They have an extension compensator so that no measures need to be taken to allow for changes in length. The following procedure is to be observed:

- Trim the spigot end of the pipe and clean if necessary. Chamfering is not required.
- Remove the gasket from the socket and pull it without any lubricant - onto the spigot end of the pipe.
- Smear the outside of the gasket with lubricant (do not use oil or grease) and also provide the inside of the socket with lubricant.
- Push the spigot end with the gasket into the socket.
- Push the single socket onto the spigot end until it resists.
- Check the correct position of the gasket.



DN	L [mm]	t [mm]	t ₁ [mm]	t ₂ [mm]
50	126	49	5	15
75	119	48	6	16
90	123	47	6	16
110	125	63	6	16
125	132	63	6	16
160	144	63	6	16
200	228,5	109	6	16





3.2 OTHER PUSH-FIT CONNECTIONS

Push-fit connections between pipes and fittings which are not produced with a single socket must, in the case of a maximum pipe length of 3 metres, compensate thermal changes in length of maximum 10 mm. Therefore pipes are to be pulled back 10 mm in the socket after the connection has been made.

- · Clean the spigot end, the socket and the gasket if necessary.
- Check the position and the intactness of the gasket in the socket corrugation.
- Smear the spigot end with lubricant.
- Place the spigot end in a central position and push it into the socket until it resists.
- Pull the pipe not the fitting back by 10 mm and in case of a vertical position - protect the pipe from subsequent slipping by means of clamps



Additional connection couplings (such as those required in the case of cast-iron pipes) are not necessary with Skolan dB.

Push-fit connections are easier and quicker. This saves time and material.

4. INSTALLATION

Emiplast S.Line pipes are to be installed in such a manner that they are free of tension and that changes in lengths are not hindered. The Skolan dB soundproof pipe system is installed by using commercial pipe clamps with inserting tapes made of profile rubber.

Arranging the pipe clamps

- The distance between the pipe clamps in the case of horizontal piping is approx. 10 x the exterior pipe diameter
- In the case of vertical installation the distance between clamps should be 1 – 2 metres, however, 2 metrees should not be exceeded.
- If possible, do not install pipe clamps directly at the zones of impact
- A fixed clamp and a loose clamp per pipe length (storey height of more than 2.50 m) are recommended for drop pipe lines
- Fixed clamps are fixed points in the piping system. In the case of pipes without sockets, the fixed clamp is to be placed directly above the shaped part at the bottom end of the pipe. Fittings or groups of shaped parts are always to be located as fixed points
- Even when they are installed, loose clamps enable unhindered lengthways movements in order to allow for thermal changes in length
- In multi-storey buildings, drop pipes are to be secured against subsidence. The use of an adjustment length with a fixed clamp under the socket is recommended.



Pipe clamp with inserting tape as a loose clamp



Examples for the arrangement of fixed clamps and loose clamps

5. INSTALLATION IN CONCRETE/ BRICKWORK

Emiplast S.Line pipes and fittings can be directly set in concrete or plaster provided that adequate care is taken. In order to prevent the concrete mixture from seeping into the socket gap, it should be sealed with adhesive tape. Open piping components are to be closed. The piping is to be installed in such a manner that it is prevented from moving during the cementing process. Should the piping be plastered under a gap in the wall, a layer of plaster of at least 1.5 cm should be applied onto a plaster support (e.g. metal mesh). No acous-tic bridge for structure-borne sound should be allowed to develop between the piping and the plaster support. In order to prevent this, the piping should be fully covered with sound insulation material (e.g. mineral wool, insulating sheaths).

6. RAINFALL DRAINPIPES

Should rainfall drainpipes run though living quarters, condensed water insulation is also recommended for Skolan dB.

7. CEILING PIPES

Pipes installed through ceilings must be sound-insulated with structure-borne sound insulation material and be dampproof. Should melted asphalt be put onto the floors, the piping parts in the region where the pipe runs through the ceiling must be protected by means of protective pipes or by means of being wrapped in heat-insulating materials.

8. SUBSEQUENT INSTALLATION OF PIPING PARTS

Subsequent connections can be produced by means of the installation of a branch or by using couplers. In order to install, a sufficiently long piece of pipe (L = length of the shaped part + 2.5 d) is removed and the branch is inserted. Cutting edges are to be cleaned and smoothened. A coupler is pushed onto both the remaining pipe without a socket and onto a piece of pipe equivalent to the gap. The piece of pipe is then inserted into the piping and the couplers are pushed over the cutting edges. The couplers are to be secured by means of clamps.





Chemical Resistance of Polypropylene – Emiplast S.Line

Chemicals	Concentrate	Ter	np. [°C]	Chemicals	Concentrate	Ten	np. [°C]
	[%]	20	60	100	Data a si wa kusha si da	[%]	20	60	100
Acetone	100	+	°		Potassium hydroxide	50	+	+	<u> </u>
Ammonia, gaseous	100	+	+		Potassium hydroxide	25	+	+	<u> </u>
Ammonia, aq.	conc.	+	+		Potassium hydroxide	100	+	+	<u> </u>
Ammonia, aq.	10	+	+		Chloring liquid	100	+	+	<u> </u>
Amyl alcohol, pure		+	+		Chlorine iquiu	100	-	-	<u> </u>
Acetic anhydride	100	+			Chlorine, gaseous, dry	100	-	-	-
Aniline	100	+		+*	Chlorobenzene	100		-	-
Benzaldehyde	100	+			Sodium chlorate, ag	5	-	<u> </u>	-
Benzaldehyde, aq.	sat.	+			Ammonium chloride, aq	anv	+	+	+
Petrol	(see Industr	ial lio	quids	s)	Tin chloride	sat.	+	+	<u> </u>
Benzene	100	-*	-		Potassium chloride, ag.	sat.	+	+	+
Bromine, liquid	100	-			Sodium chloride, aq.	sat.	+	+	+
Bromine vapours	high	-	-		Calcium chloride, aq.	sat.	+	+	+
Bromine vapours	dil.	0	-		Sodium perchlorate, aq.	5	+	+	
Bromine water	sat.	-	-		Potassium	sat.	+	+	
Butane, liquid	100	+			hypochlorite, aq.				
Butane, gaseous	100	+	+		Sodium hypochlorite, aq.	25	+	+	
Butyl acetate	100	+	0		Chloroform	100	-*	-	
Cyclohexane	100	+			Chlorine water	sat.	0	-	
Cyclohexanol	100	+	+		Hydrogen	high	+	+	
Cyclohexanone	100	+	-		chloride, gaseous	100			<u> </u>
Dibutyl phthalate	(see Industr	ial lio	quids	s)	Isooctane	100	+	-	<u> </u>
Diethy ether	100	0			Isopropyi alconol	100	+	+	-
Potassium	sat.	+	+	+	Crocol	100	+	+	-
dichromate, aq.					Cresol ag	100	+	0	-
Dimethylformamide	100	+			Cresol, aq. Bonzoio acid	100	+		-
1.4-Dioxan	100	+	0	-	Benzoic acid ag	eat	+	+	+
Ammonium nitrate, aq.	any.	+	+	+	Bericacid	100	+	+	+
Potassium nitrate, aq.	sat.	+	+		Boric acid ag	sat	+	+	-
Sodium nitrate, aq.	sat.	+	+		Citric acid, aq.	sat	+	+	+
Calcium nitrate, aq.	sat.	+	+	+	Nitric acid	50	0	-	<u> </u>
Ethyl acetate	100	0	0		Nitric acid	25	+	+	-
Ethyl alcohol	100	+			Nitric acid	10	+	+	
Ethyl alcohol, aq.	96	+	+		Hydrofluoric acid	40	+	+	
Ethyl alcohol, aq.	50	+	+		Phosphoric acid	sat.	+	0	
Ethyl alcohol, aq.	10	+	+		Phosphoric acid	50	+	+	
Ethyl benzene	100	0	-		Phosphoric acid	10	+	+	+
Ethylene chloride	100	0	-*		Hydrochloric acid	sat.	+	+	
2-Ethyl hexanol	100	+			Chlorosulphonic acid	100	_	-	
Ethyl chloride	100	-			Chromic acid	sat.	+	-	
Ether - see diethyl ether					Chromic acid	20	+	0	
Phenol	sat.	+	+		Succinic acid, aq.	sat.	+	+	
Formaldehyde, aq.	40	+	+		Lactic acid, aq.	90	+	+	
Formaldehyde, aq.	30	+	+		Lactic acid, aq.	50	+	+	
Formaldehydw, aq.	10	+	+		Lactic acid, aq.	10	+	+	+
Ammonium	any	+	+	+	Formic acid	98	+	0	
phosphate, aq.					Formic acid	90	+		
Sodium phosphate, aq.	sat.	+	+	+	Formic acid	50	+	+	
Glycerol	100	+	+		Formic acid	10	+	+	+
Glycerol, aq.	high	+	-	-	Glacial acetic acid	100	+	0	-
Glycerol, aq.	verdünnt	+	-	-	Acetic acid, aq.	50	+	+	<u> </u>
Glycol	100	+	+		Acetic acid, aq.	10	+	+	+
Glycol, aq.	high	+	+		Oleic acid	100	+	<u> </u>	<u> </u>
Glycol, aq.	dil.	+	+	+	Sulphuric acid	96	+	°	<u> </u>
Heptane	100	+	•		Sulphuric acid	50	+	+	<u> </u>
Hexane	100	+	•		Sulphuric acid	25	+	+	<u> </u>
Aluminium salts	any	+	+	+	Sulphuric acid	10	+	+	+
Sodium disulphide, aq.	sat.	+	+		Stearolic acid	100	+	-	
Sodium hydrog.	sat.	+	+	+	Oxalic acid, aq.	sat.	+	+	+
carbonate, aq.		1			Acidity of wine, aq.	sat.	+	+	

Chomicala	Concentrate	Ter	np. [°C]
Chemicais	[%]	20	60	100
Hyper manganese, aq.	sat.	+	$+^{*}$	
Methanol	100	+	+	
Methanol, aq.	50	+	+	
Methyl ethyl keton	100	+	0	
Methyl chloride	100	°		
Mineral oils	(see Industr	ial lic	quids	5)
Urea, aq.	sat.	+	+	
Naphthalene	100	+		
Soda limo	50	-	-	-
Soda lime	25	+	+	
Soda lime	10	+	+	+
n-Buthanol	100	+	+	
Nitrobenzene	100	+*	0	
Ammonium acetate, aq.	any	+	+	+
Acetate see isooctane				
Phosphorous pentoxide	100	+		
Sulphur dioxide	dil.	+	+	
Ozone < 0.5 ppm		$+^{*}$	-*	
Hydrogen peroxide, aq.	90			
Hydrogen peroxide, aq.	30	+	0	
Hydrogen peroxide, aq.	10	+	+	
Hydrogen peroxide, aq.	3	+	+	+
Potassium	sat.	+		
persulphate, aq.	100			
Propane, liquid	100	+		
Propane, gaseous	100	+	+	
Mercury	100	+	+	_
Sulphur	100	+	+	+
Ammonium sulphate	anv	+	+	+
Potassium sulphate, ag.	sat.	+	+	+
Sodium sulphate, aq.	sat.	+	+	+
Carbon disulphide	100	0		
Hydrocarbon	dil.	+	+	
Sodium sulphite, aq.	sat.	+	+	
Barium salts	any	+	+	+
Magnesium salts, aq.	sat.	+	+	+
Chromium salts 2+, 3+	sat.	+	+	
Copper salts	sat.	+	+	+
Nickel salts	sat.	+	+	
Mercury salts, aq.	sat.	+	+	
Silver salts	sat.	+	+	
Zinc salts, aq.	sat.	+	+	
Iron salts, aq.	sat.	+	+	+
Soulum sulphide, aq.	sat.	+	+	
tetraborate, aq.	sat.	+	+	+
Tetrahydrofuran	100	0	-	
Tetrahydronaphtalene	100	0	-	
Tetrachlorothane	100	0	-	
Tetrachloromethane	100	0	-	
Thiophene	100	0	-	
Sodium thiosulphate, aq.	sat.	+	+	
Toluene	100	0	-	
Trichloroethane	100	0	-*	
Ammonium carbonate	any	+	+	+
Potassium	sat.	+	+	
Sodium carbonate (eodo)	sat	+	+	
Sodium carbonate (soda)	10 10	+	+	+
Water	100	+	+	+
Xylene	100	0	-	-
2 C C				

Chemicals	Concentrate	Ter	np. [°C]
Industrial liquids	[/0]	20	60	100
Battery acid		+	+	
Asphalt		+	0	
Petrol, pure		+	0	
Petrol, natural		+	0	
Petrol, special		+	0	
Petrol, super		$+^{*}$	0	
Bleaching lye (12.5% Cl)		0	0	
Borax, aq.	sat.	+	+	
Wood turpentine		+	$+^{*}$	
Brake fluid		+	+	
Tar		+	0	
Formalin®		+	+	
Photographic developer	stand.	+	+	
Fridex®		+	+	
Chlorinated lime		+	+	
Chrome tanning bath		+	+	
Chromic-sulphuric acid mixture		-	-	
Alum saturated		+	+	
Shoe polish		+	0	
Kresolum Saponatum®		+		
Moth balls		+		
Lanolin®		+	0	
LITEX®		+	+	
Linseed oil		+	+	
Lysol®		+	0	
Mineral oils		+	0	-
Engine oils		+	0	-
Diesel oil		+	0	
Synthetic grease	stand.	+	+	+
removal agent				
Oil for two- stroke engines		0	0	
Oil for typewriters		+	+*	
Transformer oil		+	•	
Oleum	any	-	-	
Paraffin	100	+	+	-
Paraffin oil	100	+	0	-
Pectin saturated		+	+	
Petroleum ether	100	+	0	
Furniture polish		+	0	-
Detergent		+	+	
Sagrotan®		+	0	
Surfactants for dishes		+	+	+
Silicone oil		+	$+^{*}$	
Pine essence		+	$+^{*}$	
Soda	see sodium	carb	ona	te
Solvina		+	+	
Turpentine		0	-	
Heating oil		+	0	
China ink		+	+	
Fixing bath	10	+	+	
Sea water		+	+	+
vvater glass		+	+	
Plantinizara		+	0	-
dibutyl phthalete		+		
Plasticizers - dibutyl sebacate		+		
Plasticizers -		+		
dihexyl phthalate		+		
dinonyl adipate		-		

Chemicals	Concentrate	Temp. [°C]				
Chemicais	[%]					
Plasticizers – dioctyl adipate		+				
Plasticizers – dioctyl phthalate		+				
Plasticizers – tricresyl phosphate		+				
Plasticizers – trioctyl phosphate		+				

Pharmaceuticals and co	smetics			
Aspirin®		+		
Quinine		+		
Tincture of iodine		+		
Camphor		+		
Nail polish		+		
Menthol		+		
Soap and soap flakes		+		
Soap solution	sat.	+	+	+
Soap solution	10	+	+	+
Nail polish remover		+	0	
Perfume		+		
Hair shampoo		+	+	
Vaseline		+	0	
Toothpaste		-	-	

Detete colori				
Potato salad		+		
Coca-Cola®		+		
Sugar dry		+	+	-
Tea – leaves		+	+	+
Tea – ready to drink		+	+	
Lemon puree and peel		+	+	+
Apple puree		+		
Orange puree and peel		+	+	+
Ether oils		+		
Gin		+	0	
Mustard	40	+		
Cocoa – ready to drink		+		
Cocoa – powder		+	+	-
Coffee		+		Γ
(beans and ground)				
Coffee – ready to drink		+		
Ketchup		+	+	
Cognac		+	+	
Spices		+		Γ
Fish, pickled		+		
Sauerkraut (pickled cabbage)		+	+	+
Liquor	any	+	+	+
Lemonade		+	+	
Beef suet		+		
Mayonnaise		+	+	T
Margarine		+	+	-
Marmalade		+	+	t
Butter		+	+	
Honey		+	+	+
Milk-based foods		+	+	+
Milk		+		t
Flour		+	+	
Vinegar	stand.	+		
Lemon peel oil		+	+*	t
Coconut oil		+		t
Mint oil		+	+	t
Olive oil		+	+	
Palm oil	+	+	0	
Orango pool oil				\vdash

Chemicals	Concentrate	Ter	np. [°C]
	[70]	20	60	100
Vegetable oil		+	0	
Soya bean oil		+	°	
Maize oil		+		
Groundnut oil		+	+*	-~
Animal fat		+	Ů	
Fruit salad		+		
Pastries		+	+	+*
Beer		+		
Buttermilk		+		
Pudding		+	+	+*
Rum	40	+	+	
Cod-liver oil		+		
Pork lard		+	0	
Salami		+	+	
Turnip syrup	any	+	+	$+^{*}$
Salted herrings		+		
Soda water		+		
Salt water		+	+	+
Cooking salt	see sodium chloride			
Cheese		+		
Starch solution	any	+	+	
Whipped cream		+		
Pineapple juice		+	+	
Lemon juice		+	+	
Grapefruit juice		+	+	
Apple juice		+	+	
Fruit juice		+	+	
Orange juice		+	+	
Tomato juice		+	+	
Baking juice		+	+	$+^{*}$
Lemon essence		+		
Almond essence		+		
Vinegar essence	stand.	+	+	
Rum essence		+		
Vanilla essence		+	+	
Curd		+		
Raw and boiled egg		+	+	$+^{*}$
Wine		+	+	
Whisky	40	+		
Vegetables		+	+	+*
				+

Key

+	resistant	
+*	partially resistant	
0	resistant to a certain degree	
-*	of low resistance	
-	not resistant	
no details	not tested	
any	any concentration	
conc.	concentrated solution	
low	low concentration	
stand.	standard concentration	
serv.	service concentration	
dil.	diluted solution	
aq.	aqueous solution	
sat.	cold saturated solution	
hot sat.	hot saturated solution	
trac.	traces	

Boiling point 56.3 °C
 Boiling point 34.6 °C
 Boiling point 13.1 °C
 Discolouring with lead stabilisers
 Resistance depends on composition
 Free of solvents, plasticizers and other additives



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