



Product Datasheet MHT2886

POWERPROTECT ESB

Red

General

Emtelle PowerProtect+ ESB ducts are suitable for electric cable protection. The ducts are made of HDPE material. Emtelle PowerProtect+ ESB ducts are smooth in- and outside. The ducts can be connected using butt welding technique or Emtelle PVC Ring-seal Couplers - EF450-073.

Each individual length of duct comes with a depth of entry mark and a chamfer at each spigot end. Depth of entry mark matches Emtelle PVC Ring-seal Couplers – EF450-073.

The ducts are skinned coloured RED RAL3020, minimum 1mm Thickness

Raw Materials

Materials

HDPE raw materials are used

Dimensions PowerProtect ESB SDR21 RED

Product Code	Product Description	Supply Length	Metre / Frame
300410-12	110x5,3mm ESB SDR21, 12m	12m	576m
300411-12	125x6mm ESB SDR21, 12m	12m	408m
300412-12	140x6,7mm ESB SDR21, 12m	12m	312m
300413-12	160x7,7mm ESB SDR21, 12m	12m	240m
300414-12	180x8,6mm ESB SDR21, 12m	12m	204m
300415-12	200x9,6mm ESB SDR21, 12m	12m	168m
300416-12	225x10,8mm ESB SDR21, 12m	12m	168m
300417-12	250x11,9mm ESB SDR21, 12m	12m	84m
300418-12	280x13,4mm ESB SDR21, 12m	12m	48m
300419-12	315x15mm ESB SDR21, 12m	12m	36m
300420-12	355x16,9mm ESB SDR21, 12m	12m	36m
300421-12	400x19,1mm ESB SDR21, 12m	12m	36m
300422-12	450x21,5mm ESB SDR21, 12m	12m	24m
300423-12	500x23,9mm ESB SDR21, 12m	12m	24m
300424-12	560x26,7mm ESB SDR21, 12m	12m	24m
300425-12	630x30mm ESB SDR21, 12m	12m	12m
300426-12	710x33,9mm ESB SDR21, 12m	12m	12m
300427-12	800x38,1mm ESB SDR21, 12m	12m	12m

Other supply lengths available on request

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Dimensions PowerProtect ESB SDR17 RED

Product Code	Product Description	Supply Length	Metre / Frame
300428-12	110x6,6mm ESB SDR17, 12m	12m	576m
300429-12	125x7,4mm ESB SDR17, 12m	12m	408m
300430-12	140x8,3mm ESB SDR17, 12m	12m	312m
300431-12	160x9,5mm ESB SDR17, 12m	12m	240m
300432-12	180x10,7mm ESB SDR17, 12m	12m	204m
300433-12	200x11,9mm ESB SDR17, 12m	12m	168m
300434-12	225x13,4mm ESB SDR17, 12m	12m	168m
300435-12	250x14,8mm ESB SDR17, 12m	12m	84m
300436-12	280x16,6mm ESB SDR17, 12m	12m	48m
300437-12	315x18,7mm ESB SDR17, 12m	12m	36m
300438-12	355x21,1mm ESB SDR17, 12m	12m	36m
300439-12	400x23,7mm ESB SDR17, 12m	12m	36m
300440-12	450x26,7mm ESB SDR17, 12m	12m	24m
300441-12	500x29,7mm ESB SDR17, 12m	12m	24m
300442-12	560x33,2mm ESB SDR17, 12m	12m	24m
300443-12	630x37,4mm ESB SDR17, 12m	12m	12m
300444-12	710x42,1mm ESB SDR17, 12m	12m	12m
300445-12	800x47,4mm ESB SDR17, 12m	12m	12m

Other supply lengths available on request

Dimensions PowerProtect ESB SDR11 RED

Product Code	Product Description	Supply Length	Metre / Frame
300446-12	110x10mm ESB SDR11, 12m	12m	576m
300447-12	125x11,4mm ESB SDR11, 12m	12m	408m
300448-12	140x12,7mm ESB SDR11, 12m	12m	312m
300449-12	160x14,6mm ESB SDR11, 12m	12m	240m
300450-12	180x16,4mm ESB SDR11, 12m	12m	204m
300451-12	200x18,2mm ESB SDR11, 12m	12m	168m
300452-12	225x20,5mm ESB SDR11, 12m	12m	168m
300453-12	250x22,7mm ESB SDR11, 12m	12m	84m
300454-12	280x25,4mm ESB SDR11, 12m	12m	48m
300455-12	315x28,6mm ESB SDR11, 12m	12m	36m
300456-12	355x32,2mm ESB SDR11, 12m	12m	36m
300457-12	400x36,3mm ESB SDR11, 12m	12m	36m
300458-12	450x40,9mm ESB SDR11, 12m	12m	24m
300459-12	500x45,4mm ESB SDR11, 12m	12m	24m
300460-12	560x50,8mm ESB SDR11, 12m	12m	24m
300461-12	630x57,2mm ESB SDR11, 12m	12m	12m

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Pipe Performance

Physical Properties:

Test	Standard	Result
Impact test 5kg	DS EN 61386	OK
Elongation at Break	EN ISO 6259	>350%
Yield Stress	EN ISO 6259	>20MPa
Compression	DS EN 61386	>750N at <5%
200 Joule impact test	IEC 61386-24	OK
Longitudinal reversion	EN ISO 2505	<3%
OIT ≥ 20 min	ISO 11357	OK

SDR	Compression DS/EN 61386 (N)	Ring Stiffness EN ISO 9969 (kN/m ²)
11	1900	60
17	1200	20
21	750	N/A

The pipes shall have dimensions (mm) as defined above, in addition other non-standard dimensions can be chosen,

The weight (mass) of the pipe shall be nominally calculated for 1 m pipe

$$(OD - wt) \times wt \times \pi \times density$$

Where: OD (outside diameter) and wt (wall thickness) is in mm, and density for HDPE is 0.96 g/cm³.

Pipe Ovality: ≤ 3mm

Bend Radius: 24xOD (outside diameter)

Temperature Range: 0-70 degree Celsius (within duct)

Flexural Modulus: Comply to EN61386

Soil pH Range: 1-11 (Acidic Bog – Limestone Rock) – OK

Friction: ≤ 0,2

Service life expectance: 50 years

Service experience/Factory experience: OK

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SDR 21										
OD [mm]	WT [mm]	ID [mm]	ODmin [mm]	ODmax [mm]	Ovality	WTmin [mm]	WTmax [mm]	Weight [kg/m]	Min Bend Radius [mm] @ 20 ° C	Ring Stiffness SN {kN/m ² }
110	5,3	99,4	110,0	110,7	2,2	5,3	6,0	1,67	2.750	TBC
125	6,0	113,0	125,0	125,8	2,5	6,0	6,7	2,15	3.125	TBC
140	6,7	126,6	140,0	140,9	2,8	6,7	7,5	2,69	3.500	TBC
160	7,7	144,6	160,0	161,0	3,2	7,7	8,6	3,54	4.000	TBC
180	8,6	162,8	180,0	181,1	3,6	8,6	9,6	4,44	4.500	TBC
200	9,6	180,8	200,0	201,2	4,0	9,6	10,7	5,51	5.000	TBC
225	10,8	203,4	225,0	226,4	4,5	10,8	12,0	6,97	5.625	TBC
250	11,9	226,2	250,0	251,5	5,0	11,9	13,2	8,54	6.250	TBC
280	13,4	253,2	280,0	281,7	5,0	13,4	14,9	10,77	7.000	TBC
315	15,0	285,0	315,0	316,9	5,0	15,0	16,6	13,56	7.875	TBC
355	16,9	321,2	355,0	357,2	6,0	16,9	18,7	17,22	8.875	TBC
400	19,1	361,8	400,0	402,4	7,0	19,1	21,2	21,93	10.000	TBC
450	21,5	407,0	450,0	452,7	8,0	21,5	23,8	27,77	11.250	TBC
500	23,9	452,2	500,0	503,0	8,0	23,9	26,4	34,30	12.500	TBC
560	26,7	506,6	560,0	563,4	8,0	26,7	29,5	42,92	14.000	TBC
630	30,0	570,0	630,0	633,8	9,0	30,0	33,1	54,26	15.750	TBC
710	33,9	642,2	710,0	716,4	9,0	33,9	37,4	69,09	17.750	TBC
800	38,1	723,8	800,0	807,2	10,0	38,1	42,1	87,50	20.000	TBC

*Note that “,” separates for decimals and “.” separates for thousands

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SDR 17										
OD [mm]	WT [mm]	ID [mm]	ODmin [mm]	ODmax [mm]	Ovality	WTmin [mm]	WTmax [mm]	Weight [kg/m]	Min Bend Radius [mm] @ 20 °C	Ring Stiffness SN {kN/m ² }
110	6,6	96,8	110,0	110,7	2,2	6,6	7,4	2,06	2.200	16
125	7,4	110,2	125,0	125,8	2,5	7,4	8,3	2,62	2.500	16
140	8,3	123,4	140,0	140,9	2,8	8,3	9,3	3,30	2.800	16
160	9,5	141,0	160,0	161,0	3,2	9,5	10,6	4,31	3.200	16
180	10,7	158,6	180,0	181,1	3,6	10,7	11,9	5,46	3.600	16
200	11,9	176,2	200,0	201,2	4,0	11,9	13,2	6,75	4.000	16
225	13,4	198,2	225,0	226,4	4,5	13,4	14,9	8,55	4.500	16
250	14,8	220,4	250,0	251,5	5,0	14,8	16,4	10,50	5.000	16
280	16,6	246,8	280,0	281,7	5,0	16,6	18,4	13,19	5.600	16
315	18,7	277,6	315,0	316,9	5,0	18,7	20,7	16,71	6.300	16
355	21,1	312,8	355,0	357,2	6,0	21,1	23,4	21,25	7.100	16
400	23,7	352,6	400,0	402,4	7,0	23,7	26,2	26,90	8.000	16
450	26,7	396,6	450,0	452,7	8,0	26,7	29,5	34,09	9.000	16
500	29,7	440,6	500,0	503,0	8,0	29,7	32,8	42,13	10.000	16
560	33,2	493,6	560,0	563,4	8,0	33,2	36,7	52,75	11.200	16
630	37,4	555,2	630,0	633,8	9,0	37,4	41,3	66,84	12.600	16
710	42,1	625,8	710,0	716,4	9,0	42,1	46,5	84,80	14.200	16
800	47,4	705,2	800,0	807,2	10,0	47,4	52,3	107,59	16.000	16

*Note that “,” separates for decimals and “.” separates for thousands

SDR 11										
OD [mm]	WT [mm]	ID [mm]	ODmin [mm]	ODmax [mm]	Ovality	WTmin [mm]	WTmax [mm]	Weight [kg/m]	Min Bend Radius [mm] @ 20 °C	Ring Stiffness SN {kN/m ² }
110	10,0	90,0	110,0	110,7	2,2	10,0	11,1	3,02	2.200	64
125	11,4	102,2	125,0	125,8	2,5	11,4	12,7	3,91	2.500	64
140	12,7	114,6	140,0	140,9	2,8	12,7	14,1	4,88	2.800	64
160	14,6	130,8	160,0	161,0	3,2	14,6	16,2	6,40	3.200	64
180	16,4	147,2	180,0	181,1	3,6	16,4	18,2	8,09	3.600	64
200	18,2	163,6	200,0	201,2	4,0	18,2	20,2	9,98	4.000	64
225	20,5	184,0	225,0	226,4	4,5	20,5	22,7	12,64	4.500	64
250	22,7	204,6	250,0	251,5	5,0	22,7	25,1	15,56	5.000	64
280	25,4	229,2	280,0	281,7	5,0	25,4	28,1	19,50	5.600	64
315	28,6	257,8	315,0	316,9	5,0	28,6	31,6	24,70	6.300	64
355	32,2	290,6	355,0	357,2	6,0	32,2	35,6	31,35	7.100	64
400	36,3	327,4	400,0	402,4	7,0	36,3	40,1	39,82	8.000	64
450	40,9	368,2	450,0	452,7	8,0	40,9	45,1	50,46	9.000	64
500	45,4	409,2	500,0	503,0	8,0	45,4	50,1	62,25	10.000	64
560	50,8	458,4	560,0	563,4	8,0	50,8	56,0	78,01	11.200	64
630	57,2	515,6	630,0	633,8	9,0	57,2	63,1	98,81	12.600	64

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Issue A: 17/11/2025

Exposure:

The pipe shall be UV stabilised to withstand daylight exposure period of at least 12 months.
However, for optimum performance, the pipe is best stored for no longer than 6 months if outdoors.

Marking on duct every meter:

**DANGER ELECTRICITY CABLES “BATCH NUMBER” IMPACT TEST 200J ODmm SDR-Value EMTELLE “DD.MM.YYYY
HH:MM”**

3 Lines of print @120degree

Environmental considerations: Can be disposed to recycling.

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