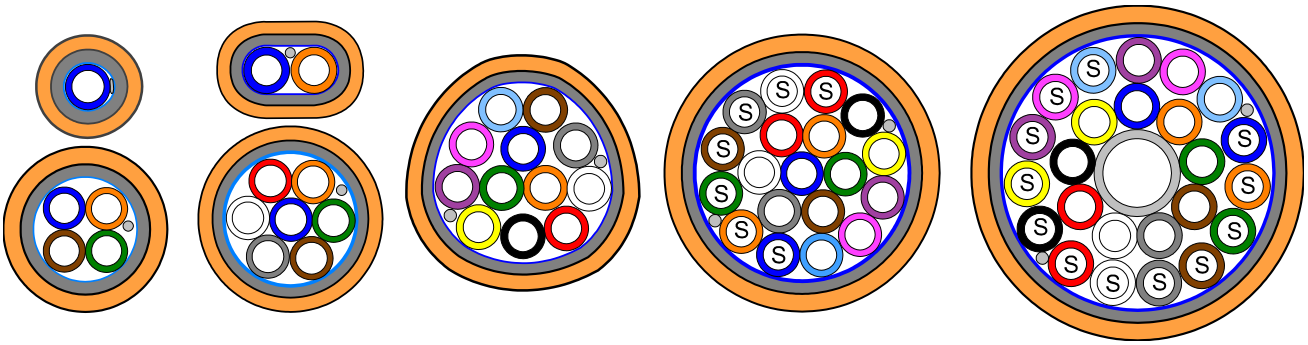
fibreflow **Blown Fibre Assemblies: Direct Bury (DB), 3mm, 5mm and 8mm**



S in the above drawings represents 4 x longitudinal stripe

GENERIC PRODUCT DESCRIPTION: Assemblies of PE microducts (m/d) (3, or 5 or 8mm), each with low friction performance. Each assembly (bundle) is surrounded by an overlapped aluminium water barrier layer. Over this and bonded to it is a flexible sheath of black outdoor PE. Finally there is a tough outer HDPE sheath. These products are intended for direct burial in suitably prepared ground, and then field assembled during which optical fibres (see below) are installed.

APPROPRIATE FIBRE TYPES:
Any suitable sized Emtelle fibre unit: The 5mm and 8mm bundles will accommodate all FU counts: 2FU, 4FU, 8FU and 12FU. The 3mm bundles will accommodate 2FU and 4FU.

GENERIC DETAILS: MICRODUCTS (at 20°C):

Primary m/d outer diameter, nom	mm	**3.0**	**5.0**	**8.0**
Primary m/d inner diameter, nom	mm	2.1	3.5	6.0
primary m/d - mass, nominal	g/m	3.5	9.5	21
Min bend radius of primary m/d*	mm	30	50	80
Max pull tension, single m/d	N (kg)	20 (2)	70 (7)	140 (14)
centre m/d of 24-way inner diam, nom	mm	**6**	**10**	n/a
centre m/d of 24-way outer diam, nom	mm	4.5	8	n/a
centre m/d of 24-way – mass, nom	g/m	11.5	27	n/a
Min bend radius of single centre m/d*	mm	60	120	n/a
Max pull tension of single centre m/d	N (kg)	60 (6)	200 (20)	n/a

*This radius does not indicate a suitable radius for blowing FU.

1. All m/ds are compatible with designated connectors, 3mm, 5mm and 8mm
2. Max air pressure for blowing: 15bar (all sizes).
3. Storage of unprotected m/d: Indoors and well shielded from daylight.
4. Microducts coloured to EIA598 – Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua. For counts above 12 the colour sequence continues but the microducts also have 4 x longitudinal stripes in light brown (visible on all microducts).

HDPE OUTER SHEATH:
1. Sheath thickness is according to diameter.
2. The HDPE sheath shall be coloured (normally orange) and light stabilised.
3. Normal printing includes product ident, metre marks and other data by arrangement.
4. Sheath Removal: using sheath removal tools, consult Emtelle or see website.

PE INNER SHEATH:

1. Sheath thickness: 1.7mm nom; including aluminium. Exception is 1DB(5) which is 1.2mm nom.
2. The PE sheath shall be coloured (normally black) and light-stabilised.
3. There shall be a continuous aluminium foil under the sheath, and bonded to it.
4. The foil shall have an overlap of 4mm or greater.
5. The sheath thickness measurement does not apply at the foil overlap position.
6. Normal printing includes product ident, metre marks and other data by arrangement.
7. Sheath Removal: using ripcord(s) provided under the sheath

ELEMENT AND ASSEMBLY TESTS:

1. Crush test:	test method IEC 60794-1-2-E3:	Procedure to IEC 60794-5
2. Impact test:	test method IEC 60794-1-2-E4:	Procedure to IEC 60794-5
3. Kink test:	test method IEC 60794-1-2-E10:	Procedure to IEC 60794-5
3. Flexibility test:	test method IEC 60794-1-2-E11:	Procedure to IEC 60794-5

PRODUCT-SPECIFIC DETAILS:

	3mm				5mm				8mm			
type	OD nom mm	Mass nom g/m	Min* Bend Rad mm	Max** Pull force N	OD nom mm	Mass nom g/m	Min* Bend Rad mm	Max** Pull force N	OD nom mm	Mass nom g/m	Min* Bend Rad mm	Max** Pull force N
1DB	10.2	80	150/90	500	10.0	71	150/100	500	15.2	162	230/150	1000
2DB	10.2 x 13.2	104	150/90	700	12.2 x 17.2	154	190/120	1200	15.2 x 23.2	232	230/150	1500
4DB	14.4	139	200150	1000	19.3	216	300/200	1600	27.1	368	400/300	2500
7DB	16.2	166	230/170	1100	22.2	278	350/240	2000	31.8	487	540/370	3500
12DB	19.4	220	270/220	1500	28.2	411	430/310	2800	40.4	698	700/550	4800
19DB	21.8	272	330/250	2000	32.2	526	550/360	4000	47.8	987	900/650	7000
24DB	25.2	340	375/300	2300	37.8	671	650/500	5000				

NOTES:

Bend Radius:

*These radius values relate only to the physical cable performance, not to recommended blowing radii. See Installation manual for blowing advice.

*The second bend radius applies after the outer sheath has been removed.

Force:

** These products are normally buried, not pulled, but pulling is acceptable. After applying pulling tensions, allow time for the pulled product to relax. See Installation manual.

Note 1: Diameters and thicknesses are measured to the nearest 0.1mm.
Note 2: 'nominal' data is based on middle-spec, and is for information only, not for inspection purposes.
Note 3: Sketches are for information purposes only, and should not be used for inspection.
Note 4: When interpreting performance data and installing bundles or fibre units, it is assumed that the user has been trained by Emtelle.
Note 5: All data is believed to be accurate but
Note 6: Users must establish the suitability of these products for their own applications.
Note 7: If sheathed products are to be stored outdoors for a long period (1yr+), we advise wrapping in black film to preserve colour depth. Unprotected m/d is best stored indoors, or wrapped in black film.