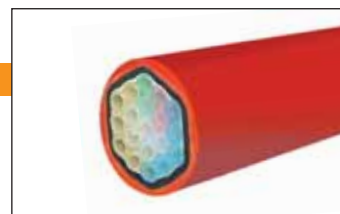


## Direct Bury metal free (DBmf)



Assemblies of PE microducts (3 or 5mm), each with low friction performance. Each assembly (tube bundle) is surrounded by blocking material that reacts to block water movement. Over the bundle is one sheath of flexible black PE, and one sheath of tough orange direct burial-grade PE. These strong products are designed for direct burial into suitably prepared ground.

### DB(mf)

Single direct buried microducts in various forms (1DBmf) are extensively used to link the network to the building. Standard 1DBs have two sheaths, so the outer sheath may be removed and the single-sheathed version can then be led into closures, chambers etc where other protection is provided.

A new style of 1DB\* is also now offered - a single heavy-wall microduct which is available sheathed or unsheathed. These heavy wall products have the ideal FTTH combination of flexibility and toughness, typically requiring no end-end connection or closure along the length. When using heavy wall microducts, ensure the correct connectors or reducers are used.

\* Refer to page 33.

Description	Microduct Size	Supply length	Minimum Order Quantity	Drum Type	Product weight per metre gms	Total weight kg	Product Code
2DBmf	3/2.1mm	2000m	4000m	G	99	290	8361T
4DBmf	3/2.1mm	4000m	4000m	1.4D	130	664	8362T
7DBmf	3/2.1mm	4000m	4000m	1.4D	157	772	8363T
12DBmf	3/2.1mm	4000m	4000m	2.0D	207	1173	8364T
19DBmf	3/2.1mm	4000m	4000m	2.0D	256	1369	8365T
24DBmf	3/2.1mm	2000m	2000m	1.7D	320	877	8247T
1DBmf (heavy-wall)	5/2.1mm	500m	4000m	coil	74	37	8351T
1DBmf	5/3.5mm	500m	4000m	coil	62	31	8233T
		500m	4000m	600ply		39	8213T
		2000m	4000m	F		196	8216TS
		4000m	4000m	MB5		346	8216T
2DBmf	5/3.5mm	2000m	4000m	G	145	382	8217T
		4000m	4000m	1.4D		724	8217TL
4DBmf	5/3.5mm	4000m	4000m	1.7D	203	1049	8218T
7DBmf	5/3.5mm	4000m	4000m	2.0D	262	1393	8219T
12DBmf	5/3.5mm	4000m	4000m	2.35D	389	2107	8220T
19DBmf	5/3.5mm	3000m	3000m	2.35D	500	2051	8221T
24DBmf	5/3.5mm	2000m	4000m	2.2D	637	1844	8222T
1DBmf	10/8mm	2000m	4000m	MB5	184	466	8239
2DBmf	10/8mm	2000m	4000m	1.4D	261	666	60208
4DBmf	10/8mm	2000m	4000m	2.0D	480	1305	60209
7DBmf	10/8mm	2000m	4000m	2.2D	650	1870	60211
2DBmf	12/10mm	2000m	4000m	1.7D	309	855	60212
4DBmf	12/10mm	2000m	4000m	2.2D	505	1580	60213
7DBmf	12/10mm	1000m	4000m	2.0D	684	1029	60144

### TECHNICAL DATA – DB(mf) Range (nominal unless otherwise stated)

Type	Microduct OD mm	Microduct ID mm	Bundle OD mm	Min Bend rad mm	Max Pull		Generic Specification
					kg	N	
2DBmf	3.0	2.1	13.3 x 10.3	150	55	550	MHT2156
4DBmf	3.0	2.1	14.5	220	70	700	MHT2156
7DBmf	3.0	2.1	16.3	240	85	850	MHT2156
12DBmf	3.0	2.1	19.5	290	110	1100	MHT2156
19DBmf	3.0	2.1	21.9	330	140	1400	MHT2156
24DBmf	3.0	2.1	25.3	380	170	1750	MHT2156
1DBmf	5.0	2.1	10.0	130	40	400	MHT1281
1DBmf	5.0	3.5	10.0	150	25	250	MHT 2156
2DBmf	5.0	3.5	12.3 x 17.3	185	75	750	MHT2156
4DBmf	5.0	3.5	19.4	300	110	1100	MHT2156
7DBmf	5.0	3.5	22.3	335	140	1450	MHT2156
12DBmf	5.0	3.5	28.1	425	210	2150	MHT2156
19DBmf	5.0	3.5	32.1	550	270	2750	MHT2156
24DBmf	5.0	3.5	37.7	645	350	3500	MHT2156
1DBmf	10.0	8.0	17.7	270	100	1000	MHT1743
2DBmf	10.0	8.0	17.3 x 27.3	260	140	1400	MHT1805
4DBmf	10.0	8.0	31.9	480	230	2300	MHT1805
5DBmf	10.0	8.0	34.4	520	260	2600	MHT1805
7DBmf	10.0	8.0	37.8	650	310	3100	MHT1805
2DBmf	12.0	10.0	19.1 x 31.1	290	240	2400	MHT1805
4DBmf	12.0	10.0	36.8	630	400	4000	MHT1805
5DBmf	12.0	10.0	39.8	680	480	4800	MHT1805
7DBmf	12.0	10.0	43.8	750	560	5600	MHT1805

## Direct Bury metal free (DBmfb)

### DBmfb Heavy-Wall Microduct Bundles



All these bundles have simplicity and strength. They have exceptional toughness and crush resistance and can be directly buried without the need for additional protective closures at branch-off points, or inline connections. The individual microducts are so strong that the outer sheath does not need to be protective in design, but simply holds the bundle together. The individual tubes can be joined by Protected and Directly Buried rated connectors (page 72-73). This solution is easy to use, quick to install and will reduce the Total Cost of Ownership long term.

The 1, 2 and 3 way bundles are also suitable for slot cut installations.



Example configuration

Description	Microduct Size	Supply Length	Minimum Order Quantity	Drum Type	Product weight per metre gms	Total weight kg	Product Code
1DBmfb	5/2.1mm	500m	4000m	coil	74	37	8351T
1DBmfb	7/3.5mm	4000m	4000m	HH	28	166	60171
2DBmfb	7/3.5mm	4000m	4000m	MB5	97	486	60172
4DBmfb	7/3.5mm	4000m	4000m	1.7D	170	917	60173
7DBmfb	7/3.5mm	4000m	4000m	2.0D	266	1409	60174
12DBmfb	7/3.5mm	3000m	3000m	2.2D	429	1857	60175
19DBmfb	7/3.5mm	2000m	4000m	2.2D	640	1850	60176
24DBmfb	7/3.5mm	1000m	4000m	2.2D	860	1430	60177
1DBmfb	7/4mm	4000m	4000m	HH	25	154	60178
2DBmfb	7/4mm	4000m	4000m	MB5	91	462	60179
4DBmfb	7/4mm	4000m	4000m	1.7D	159	873	60180
7DBmfb	7/4mm	4000m	4000m	2.0D	247	1333	60181
12DBmfb	7/4mm	3000m	3000m	2.2D	395	1755	60182
19DBmfb	7/4mm	2000m	4000m	2.2D	587	1744	60183
24DBmfb	7/4mm	1000m	4000m	2.2D	793	1363	60184
1DBmfb	8/3.5mm	2000m	4000m	HH	38	130	8470
	8/3.5mm + sheath	3000m	3000m	G	67	293	8477
1DBmfb	10/6mm	2000m	4000m	HH	48	150	60728
2DBmfb	10/6mm	2000m	4000m	MB5	150	398	60200
3DBmfb	10/6mm	2000m	4000m	1.4D	218	580	60351
4DBmfb	10/6mm	2000m	4000m	1.4D	266	676	60202
7DBmfb	10/6mm	2000m	4000m	2.0D	430	1205	60203
1DBmfb	12/8mm	2000m	4000m	HH	60	174	60014
2DBmfb	12/8mm	2000m	4000m	1.4D	184	512	60015
3DBmfb	12/8mm	2000m	4000m	1.4D	267	678	60016
4DBmfb	12/8mm	2000m	4000m	2.0D	347	1039	60017
5DBmfb	12/8mm	2000m	4000m	2.2D	434	1438	60018
6DBmfb	12/8mm	2000m	4000m	2.2D	465	1500	60019
7DBmfb	12/8mm	2000m	4000m	2.2D	531	1632	60020
1DBmfb	14/10mm	1400m	4200m	HH	73	156	8506
2DBmfb	14/10mm	1400m	4200m	MB5	215	399	8524
3DBmfb	14/10mm	1400m	4200m	1.4D	314	584	8499
4DBmfb	14/10mm	1400m	4200m	2.0D	391	892	60022
5DBmfb	14/10mm	1400m	4200m	2.0D	507	1055	60023
6DBmfb	14/10mm	1400m	4200m	2.2D	561	1355	60352
7DBmfb	14/10mm	1400m	4200m	2.2D	631	1453	8523
1DBmfb	16/12mm	1000m	4000m	F	84	156	60618
2DBmfb	16/12mm	1000m	4000m	MB5	249	347	60722
3DBmfb	16/12mm	1000m	4000m	1.4D	363	507	60723
4DBmfb	16/12mm	1000m	4000m	2.0D	447	792	60724
5DBmfb	16/12mm	1000m	4000m	2.0D	580	925	60725
6DBmfb	16/12mm	1000m	4000m	2.2D	642	1212	60726
7DBmfb	16/12mm	1000m	4000m	2.2D	736	1306	60727



## Direct Bury metal free (DBmf)

### DBmf Heavy-Wall Microduct Bundles

Type	Microduct OD mm	Microduct ID mm	Bundle OD mm	Min Bend radius mm	Max Pull tension		Generic Specification
					kg	N	
1DBmf	5.0	2.1	10.0	130	40	400	MHT1281
1DBmf	7.0	3.5	7.0	100	20	200	MHT2309
2DBmf	7.0	3.5	9.2 x 16.4	160	65	650	MHT2309
4DBmf	7.0	3.5	19.1	330	120	1200	MHT2309
7DBmf	7.0	3.5	23.2	400	180	1800	MHT2309
12DBmf	7.0	3.5	30.7	530	300	3000	MHT2309
19DBmf	7.0	3.5	36.2	620	450	4500	MHT2309
24DBmf	7.0	3.5	44.2	750	600	6000	MHT2309
1DBmf	7.0	4.0	7.0	70	18	180	MHT2309
2DBmf	7.0	4.0	9.2 x 16.4	160	60	600	MHT2309
4DBmf	7.0	4.0	19.1	330	110	1100	MHT2309
7DBmf	7.0	4.0	23.2	400	170	1700	MHT2309
12DBmf	7.0	4.0	30.7	530	280	2800	MHT2309
19DBmf	7.0	4.0	36.2	620	410	4100	MHT2309
24DBmf	7.0	4.0	44.2	750	560	5600	MHT2309
1DBmf	8.0	3.5	8.0	80	25	250	MHT2059
1DBmf	8.0	3.5 + sheath	10.0	100	40	400	MHT2059
1DBmf	10.0	6.0	10.0	120	32	320	MHT1563
2DBmf	10.0	6.0	12 x 22	200	80	800	MHT1563
3DBmf	10.0	6.0	12 x 32	200	100	1000	MHT1563
4DBmf	10.0	6.0	26.1	380	120	1200	MHT1563
7DBmf	10.0	6.0	32.0	540	240	2400	MHT1563
1DBmf	12.0	8.0	12.0	120	40	400	MHT1564
2DBmf	12.0	8.0	14 x 26	220	90	900	MHT1564
3DBmf	12.0	8.0	14 x 38	220	140	1400	MHT1564
4DBmf	12.0	8.0	31.0	440	180	1800	MHT1564
5DBmf	12.0	8.0	34.4	600	240	2400	MHT1564
6DBmf	12.0	8.0	38.0	600	260	2600	MHT1564
7DBmf	12.0	8.0	38.0	650	280	2800	MHT1564
1DBmf	14.0	10.0	14.0	210	50	500	MHT2308
2DBmf	14.0	10.0	30 x 16mm	240	120	1200	MHT2308
3DBmf	14.0	10.0	44 x 16mm	240	170	1700	MHT2308
4DBmf	14.0	10.0	36mm across corners	500	200	2000	MHT2308
5DBmf	14.0	10.0	40mm across corners	700	270	2700	MHT2308
6DBmf	14.0	10.0	44mm across corners	750	300	3000	MHT2308
7DBmf	14.0	10.0	44mm across corners	750	350	3500	MHT2308
1DBmf	16.0	12.0	16.0	160	85	850	MHT2432
2DBmf	16.0	12.0	34 x 18	180	160	1600	MHT2432
3DBmf	16.0	12.0	50 x 18	180	240	2400	MHT2432
4DBmf	16.0	12.0	41mm across corners	570	300	3000	MHT2432
5DBmf	16.0	12.0	45.5mm across corners	770	380	3800	MHT2432
6DBmf	16.0	12.0	50mm across corners	850	430	4300	MHT2432
7DBmf	16.0	12.0	50mm across corners	850	480	4800	MHT2432



## Direct Bury (DB)



The assembly is surrounded with a 125µm aluminium layer, bonded inside a sheath of flexible black PE with a heavy duty orange coloured HDPE sheath making the product suitable for direct burial. Rip cords are pre-installed along the entire length, under the sheath, to rip through the aluminium and sheath using correct procedure.

Description	Microduct Size	Supply Length	Minimum Order Quantity	Drum Type	Product weight per metre gms	Total weight kg	Product Code
1DB	5/3.5mm	4000m	4000m	MB5	72	386	6627
2DB	5/3.5mm	4000m	4000m	1.4D	159	780	6406
4DB	5/3.5mm	4000m	4000m	1.7D	216	1101	6375
7DB	5/3.5mm	4000m	4000m	2.0D	278	1457	6314
12DB	5/3.5mm	4000m	4000m	2.35D	411	2195	6556
19DB	5/3.5mm	3000m	3000m	2.35D	526	2129	6352
24DB	5/3.5mm	2000m	4000m	2.2D	671	1912	6557
1DB	8/6mm	4000m	4000m	1.4D	162	792	61035
2DB	8/6mm	4000m	4000m	1.7D	232	1165	61036
4DB	8/6mm	2000m	4000m	1.7D	368	973	61037
7DB	8/6mm	2000m	4000m	2.0D	487	1319	8521
12DB	8/6mm	2000m	4000m	2.35D	698	1947	60153
19DB	8/6mm	1400m	4200m	2.35D	987	1933	61038
1DB	10/8mm	2000m	4000m	MB5	185	468	6893
2DB	10/8mm	2000m	4000m	1.4D	285	714	61380
4DB	10/8mm (round)	2000m	4000m	2.0D	450	1245	6655
7DB	10/8mm	2000m	4000m	2.2D	606	1782	6593
12DB	10/8mm	1000m	4000m	2.2D	946	1516	60152
1DB	12/10mm	2000m	4000m	MB5	205	508	60360
2DB	12/10mm	2000m	4000m	1.7D	331	899	60361
4DB	12/10mm (round)	2000m	4000m	2.2D	542	1654	60736
7DB	12/10mm	1000m	4000m	2.0D	726	1071	60365

### TECHNICAL DATA – DB Range (nominal unless otherwise stated)

Type	Microduct OD mm	Microduct ID mm	Bundle OD mm	Min Bend rad mm*	Max Pull		Generic Specification
					kg	N	
1DB	5.0	3.5	10.0	150/100	50	500	MHT113
2DB	5.0	3.5	12.2 x 17.2	190/120	120	1200	MHT113
4DB	5.0	3.5	19.3	300/200	160	1600	MHT113
7DB	5.0	3.5	22.2	350/240	200	2000	MHT113
12DB	5.0	3.5	28.2	430/310	280	2800	MHT113
19DB	5.0	3.5	32.2	550/360	400	4000	MHT113
24DB	5.0	3.5	37.8	650/500	500	5000	MHT113
1DB	8.0	6.0	15.2	230/150	100	1000	MHT113
2DB	8.0	6.0	15.2 x 23.2	230/150	150	1500	MHT113
4DB	8.0	6.0	27.1	400/300	250	2500	MHT113
7DB	8.0	6.0	31.8	540/370	350	3500	MHT113
12DB	8.0	6.0	40.4	700/550	480	4800	MHT113
19DB	8.0	6.0	47.8	900/650	700	7000	MHT113
1DB	10.0	8.0	17.2	260/180	130	1300	MHT167
2DB	10.0	8.0	17.2 x 27.2	260/180	200	2000	MHT167
4DB	10.0	8.0	31.9	540/370	300	3000	MHT167
7DB	10.0	8.0	37.8	640/430	400	4000	MHT167
12DB	10.0	8.0	49.5	940/660	600	6000	MHT167
1DB	12.0	10.0	19.1	280/200	150	1500	MHT167
2DB	12.0	10.0	19.1 x 31.1	280/200	240	2400	MHT167
4DB	12.0	10.0	36.8	630/500	400	4000	MHT167
7DB	12.0	10.0	43.8	750/600	550	5500	MHT167