M&P Hyperflex 5 LSZH /.212"

Ham Radio Pro Cables — M&P AIRBORNE — MESSI & PAOLONI

CE Pb RoHS Compliant 2002/95/EC

JACKET:
UV-resistant black LSZH
overall Ø 5,4mm ± 0,15
(0.212 inches ± 0.0059)

REACTIVE BRAID:
88% SCREENING - 120 wires of copper made with 24 spool machines (instead of 16). Thanks to 50% more crossovers, grants exceptional Screening Attenuation (SA) and reacts to twisting and bending like a spring

FOIL: 100% SCREENING
First screen made of copper with an applied PE-layer: prevents cracking due to short radius bends

DIELECTRIC:
High pressure physical injection foamed polyethylene
TRIPLE LAYER
overall Ø 3,7 mm ± 0,05 (0.145inches ± 0.0019)

INNER CONDUCTOR:
19x0,29mm copper wires - overall Ø 1,4 mm ± 0,15
(19x0.011 inches - overall Ø 0.055 inches ± 0.0059)

ELECTRICAL DATA

Impedence @200Mhz:	50 Ohm ± 3
Minimum bending radius:	up to 15 bends: 50mm (1.97 in) single bend (choke): 25mm (0.98 in)
Temperature:	-45°C to +70°C (-49°F to +158°F)
Capacitance:	74 pF/m ± 2 (22.6 pF/ft ± 2)
Velocity ratio:	87%
Screening Efficiency (SA)	100-2000 MHz >105 dB
Screening Class:	A++
Inner conductor resistance:	14 Ohm/Km (4.3 Ohm/1000ft)
Outer conductor resistance:	11 Ohm/Km (3.4 Ohm/1000ft)
Tension test (spark test):	4 kV
Net weight (100m/100ft):	4,4 Kg (3.0 lb)
Maximum peak power:	2.900 WATT
Connectors:	UHF (PL), N, BNC, SMA, TNC

SRL

0,3-600 MHz	>28 dB
600-1200 MHz	>25 dB
1200-2000 MHz	>22 dB

ATTENUATION (20°C /68°F)

FREQUENCY	dB/100m	dB/100ft
1,8 MHz	1,4	0,4
3,5 MHz	1,9	0,5
7 MHz	2,3	0,7
10 MHz	2,6	0,8
14 MHz	3,0	0,9
21 MHz	3,6	1,1
28 MHz	4,1	1,2
50 MHz	5,5	1,7
100 MHz	8,0	2,4
144 MHz	9,6	2,9
200 MHz	11,4	3,4
400 MHz	16,3	4,9
430 MHz	17,0	5,1
800 MHz	23,4	7,1
1000 MHz	26,4	8,0
1296 MHz	30,5	9,3
2400 MHz	42,5	12,9
3000 MHz	48,1	14,6
4000 MHz	56,9	17,3
5000 MHz	65,2	19,9
6000 MHz	72,9	22,2

POWER HANDLING (40°C/104°F)

FREQUENCY	MAX P.	FREQUENCY	MAX P.
1,8 MHz	1274 W	400 MHz	115 W
3,5 MHz	987 W	430 MHz	111 W
7 MHz	809 W	800 MHz	80 W
10 MHz	717 W	1000 MHz	71 W
14 MHz	620 W	1296 MHz	62 W
21 MHz	518 W	2400 MHz	44 W
28 MHz	453 W	3000 MHz	39 W
50 MHz	338 W	4000 MHz	33 W
100 MHz	235 W	5000 MHz	29 W
144 MHz	195 W	6000 MHz	26 W
200 MHz	165 W		

OUR PRODUCTS ARE MANUFACTURED IN COMPLIANCE WITH:
CEI 46-1 (construction parameters); EN 50117 (screening efficiency); CEI EN 50289 (SA test methods); R118 (ISO7622-1);
IEC 60332-1-2 (cables with PVC and LSZH jacket); CPR305/11 (EN50575:2014 - DoP Number: MP0099)

Given a power fed to the X value (any value expressed in Watts), the actual power output of the cable is shown in the table in the form of remaining percentage. (for example, if we use a cable such as M&P-HYPERFLEX 5, entering 1000 Watts over a length of 35m, at a frequency of 144 MHz, there remains 45,8 % of 1000). **For maximum applicable power, see the Power Handling of the cable concerned.** From these values, have already been deducted the SRL values, typical of each one of our models, for the respective frequencies.
REMEMBER: Make sure to match the line accurately!

M&P-HYPERFLEX 5 /.212"

	length --->		16,4	32,8	49,2	65,6	82	114,8	164	246	328	426,5	524,9	656,2	984,2	feet
	Wave length	MHz	5	10	15	20	25	35	50	75	100	130	160	200	300	m
Frequencies / Frequenze	85.71 m	3,5	97,7	95,6	93,5	91,5	89,5	85,6	80,2	71,8	64,3	56,4	49,4	41,4	26,6	Useful signal output (residual power %)
	42.85 m	7	97,3	94,7	92,2	89,7	87,3	82,8	76,4	66,8	58,4	49,7	42,3	34,1	19,9	
	21.42 m	14	96,5	93,1	89,9	86,8	83,8	78,2	70,4	59,1	49,6	40,2	32,5	24,6	12,1	
	10.71 m	28	95,2	90,8	86,5	82,5	78,6	71,4	61,8	48,7	38,3	28,7	21,5	14,6	5,5	
	6 m	50	93,7	87,8	82,4	77,2	72,4	63,7	52,5	38,1	27,6	18,7	12,7	7,6		
	2.08 m	144	89,4	80,0	71,5	64,0	57,2	45,8	32,8	18,8	10,7	5,4				
	69 cm	430	82,1	67,4	55,4	45,6	37,4	25,3	14,0	5,2						
	23.1 cm	1296	69,8	48,9	34,2	23,9	16,6	7,9								
	12.5 cm	2400	59,7	35,9	21,4	12,5	7,0									
	10 cm	3000	55,9	31,5	17,4	9,3	4,7									
	7.5 cm	4000	48,7	23,8	10,8	4,1										
	6 cm	5000	40,8	15,9	4,2											
	5 cm	6000	33,2	8,7												

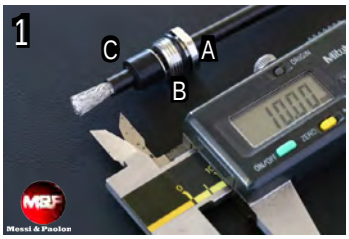
M&P-HYPERFLEX 5 /.212" Power Handling/Temperature (in Continuous Carrier)

			Temperature C° / F°									
	Wave length	MHz	-10 / 14	-5 / 23	0 / 32	10 / 50	20 / 68	30 / 86	40 / 104	50 / 122	60 / 140	70 / 158
Frequencies / Frequenze	166.66 m	1,8	1850	1850	1850	1732	1595	1432	1274	1086	899	713
	85.71 m	3,5	1528	1476	1433	1342	1236	1109	987	842	697	553
	42.85 m	7	1252	1210	1175	1100	1013	909	809	690	571	453
	30 m	10	1109	1072	1041	975	897	806	717	611	506	401
	21.42 m	14	960	928	900	843	776	697	620	529	438	347
	14.28 m	21	802	775	752	704	648	582	518	442	366	290
	10.71 m	28	701	678	658	616	567	509	453	387	320	254
	6 m	50	523	505	491	459	423	380	338	288	238	189
	3 m	100	364	352	341	320	294	264	235	200	166	132
	2.08 m	144	302	292	283	265	244	219	195	166	138	109
	1.5 m	200	255	247	239	224	206	185	165	141	116	92
	75 cm	400	178	172	167	157	144	129	115	98	81	64
	69 cm	430	172	166	161	151	139	125	111	95	78	62
	37.5 cm	800	124	120	117	109	101	90	80	68	57	45
	30 cm	1000	110	107	103	97	89	80	71	61	50	40
	23.1 cm	1296	96	92	90	84	77	69	62	53	44	35
	12.5 cm	2400	69	66	64	60	55	50	44	38	31	25
	10 cm	3000	61	59	57	53	49	44	39	33	28	22
	7.5 cm	4000	51	50	48	45	41	37	33	28	23	19
	6 cm	5000	45	43	42	39	36	32	29	25	20	16
	5 cm	6000	40	39	38	35	32	29	26	22	18	14

WATT

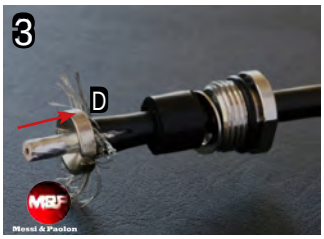
Connector assembly

Connector “N” type



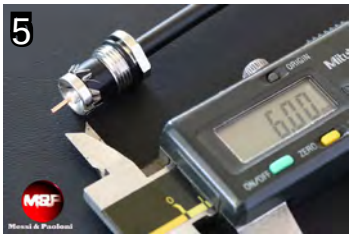
Make a circular cut on the black PVC outer jacket at the indicated length shown in the caliber (in mm). Subsequently remove it.

After having made the first cut, as shown in picture 2, rotate the cable 180 degrees and make a second cut in the same way, in order to facilitate the introduction of component D (pic.4 and 5)

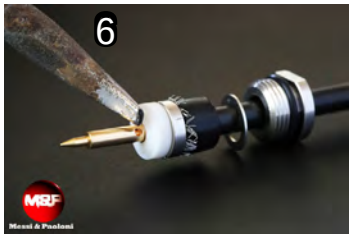


Insert component D after having opened the braid as shown in the picture. Push component D between the foil and the braid until it stops against the red PE jacket.

Flatten the wires as shown in the picture and cut the excess.



Cut and remove the tape and dieletric for a lenght as shown in the picture (in mm).

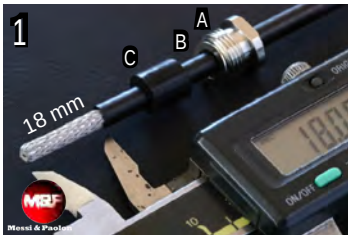


Insert one of the two teflon discs and subsequently the central pin. Solder the pin to the inner conductor, inserting tin in the provided hole. Avoid heating the pin for a too long time in order not to damage with excessive heat the cable dielectric.
(which is not made in teflon!)

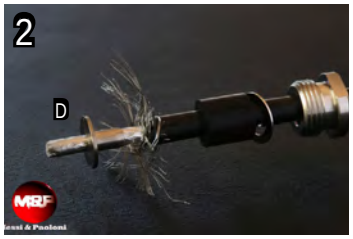
Insert the second teflon disc as shown in the picture.

Insert the connector and fasten accurately until the o-ring present in component A, will be pressed against the connector body. Inside, the rubber component C (pic. 1) will expand, granting optimal sealing against moisture and a perfect contact to ground.

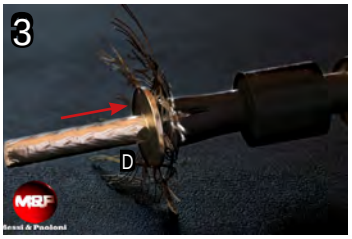
Connector “UHF” type



Insert in the cable components A, B, C and immediately after, make a circular cut on the jacket at the indicated length shown in the caliber. (in mm). Subsequently remove it.



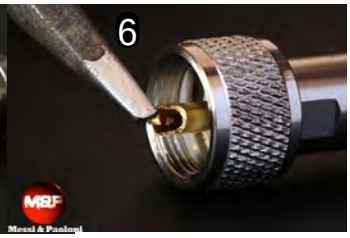
Insert component D after having opened the braid as shown in the picture.



Push component D between the foil and the braid until it stops against the jacket.

Flatten the wires as shown in the picture and cut the excess.

Cut and remove the tape and dieletric for a lenght as shown in the picture.



Insert the connector and solder it with tin to the inner conductor (see picture above). Avoid heating for a too long time in order not to damage with excessive heat the cable dielectric (which is not made in teflon!)

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Fasten together the connector and component A, until it will be pressed against the connector body. Inside, the rubber component C (pic. 1) will expand, granting optimal sealing against moisture and a perfect contact to ground.

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CONNECTORS for M&P-HYPERFLEX 5 /.212"

N solder male

UHF/PL solder male

BNC solder male

NO braid soldering needed!

Perfect match with M&P PRO cables! 105dB (SA)

Humidity proof compression design!

Dramatic suppression of the background noise!

SMA crimp male

TNC crimp male