



M&P

HyperFlex 5 /.212"

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HyperFlex 5 /.212" Crystal

High resistance copper screen (Cu) made by means of 24 spools braiding machines. (50% more crossovers if compared to traditional 16 spools machines.) This braid is **HIGHLY EFFECTIVE AGAINST IMPULSIVE NOISES**.
SCREENING PERCENTAGE: 88% 120 wires

UV resistant black PVC jacket.

PVC Ø 5,4 mm ± 0,15
(0.212 inches ± 0.0059)



High pressure physical injection foamed polyethylene.
TRIPLE LAYER DIELECTRIC FPE Ø 3,7 mm ± 0,05
(0.145 inches ± 0.05)

Crystal clear PVC jacket.
PVC Ø 5,4 mm ± 0,15
(0.212 inches ± 0.0059)

The copper foil has an applied PE-coating, placed in order to prevent foil cracking due to short radius bends.
SCREENING PERCENTAGE 100%
CU-POL

Inner conductor made of 19x0,29 stranded geometric and concentric copper wires. Purity 99,99% annealed. (annealed = thermal softening process)
Cu 19x0,29 mm - Ø 1,4 mm ± 0,15
(19x0.011 inches - 0.055 inches ± 0.0059)

ATTENUATION at 20°C/68°F		
FREQUENCY	dB/100m	dB/100ft
1,8 MHz	1,48	0,45
3,5 MHz	1,91	0,58
7,0 MHz	2,33	0,71
10 MHz	2,63	0,80
14 MHz	3,04	0,93
21 MHz	3,64	1,11
28 MHz	4,16	1,27
50 MHz	5,58	1,70
100 MHz	8,02	2,44
144 MHz	9,66	2,94
200 MHz	11,44	3,49
400 MHz	16,37	4,99
430 MHz	17,0	5,18
800 MHz	23,48	7,16
1000 MHz	26,46	8,07
1296 MHz	30,5	9,30
2400 MHz	42,58	12,98
3000 MHz	48,1	14,66
4000 MHz	56,95	17,36
5000 MHz	65,29	19,90
6000 MHz	72,92	22,23

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

ELECTRICAL DATA

Impedance @200MHz :	50 Ohm ± 3	
Minimum bending radius:		
Multiple bends/single bend	50/25 mm	(1.97/0.98 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:		
100-2000 MHz	>105 dB	
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	
Weight (100m/100ft):	4,2 Kg	(9.25 lb)
Maximum peak power:	2900 WATT	
Connectors:	C.N.HF5M-S ; C.BNC.AC5M-S ; C.UHF.AC5M-S	

POWER HANDLING (at 40°C/104°F)		
FREQUENCY	MAXP	FREQUENCY MAXP
1,8 MHz	1274 W	400 MHz 115 W
3,5 MHz	987 W	430 MHz 111 W
7,0 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	

For step by step assembly instructions of connectors, please visit our website www.messi.it

Our products are manufactured in compliance with: CEI 46-1 (construction parameters); EN 50117(screening efficiency); CEI EN 50289(SA test methods); IEC 60332-1-2(cables with LSZH jacket)



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!

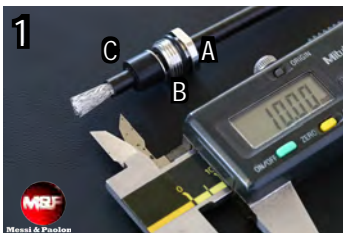
		M&P-HYPERFLEX 5 /.212"													
		length in meters													
		5	10	15	20	25	35	50	75	100	130	160	200	300	
Frequencies (MHz)	3,5	97,7	95,6	93,5	91,5	89,5	85,6	80,2	71,8	64,3	56,4	49,4	41,4	26,6	Useful signal output (residual power %)
	7	97,3	94,7	92,2	89,7	87,3	82,8	76,4	66,8	58,4	49,7	42,3	34,1	19,9	
	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	
	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	
	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		
	144	89,4	80,0	71,5	64,0	57,2	45,8	32,8	18,8	10,7	5,4				
	430	82,1	67,4	55,4	45,6	37,4	25,3	14,0	5,2						
	1200	69,8	48,9	34,2	23,9	16,6	7,9								
	2400	59,7	35,9	21,4	12,5	7,0									
	3000	55,9	31,5	17,4	9,3	4,7									
	4000	48,7	23,8	10,8	4,1										
	5000	40,8	15,9	4,2											
6000	33,2	8,7													

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

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

Connector assembly

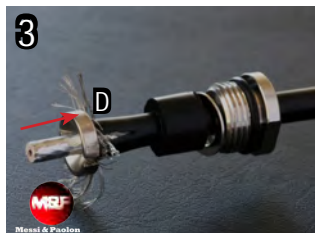
Connector "N" type : C.N.HYF5M-S



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



2 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)



3 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.



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



5 Cut and remove the tape and dielectric for a length as shown in the picture (in mm).



6 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!)

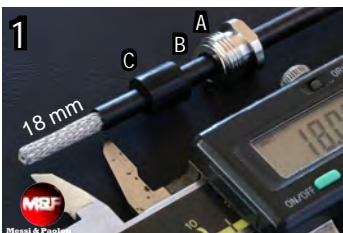


7 Insert the second teflon disc as shown in the picture.

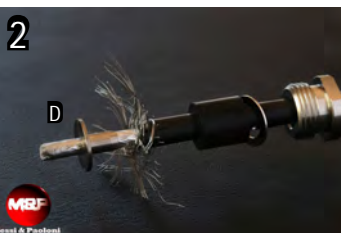


8 Insert the connector and fasten accurately until the o-ring present in component A, will be pressed against the connector body. Inside, the rubber component C (pic. 1) will expand, granting optimal sealing against moisture and a perfect contact to ground.

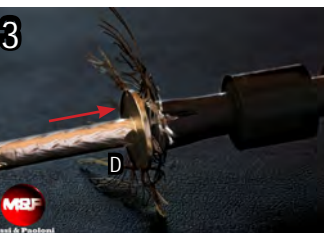
Connector "UHF" type : C.UHF.AC5M-S



1 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.



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



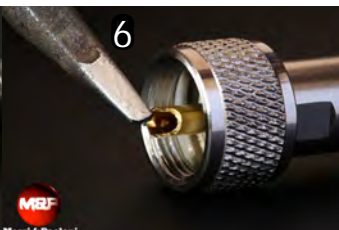
3 Push component D between the foil and the braid until it stops against the jacket.



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



5 Cut and remove the tape and dielectric for a length as shown in the picture.



6 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!)

7

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 AVAILABLE FOR M&P-HYPERFLEX 5 / .212"

C.N.HYF5M-S



C.UHF.AC5M-S



C.BNC.AC5M-S



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