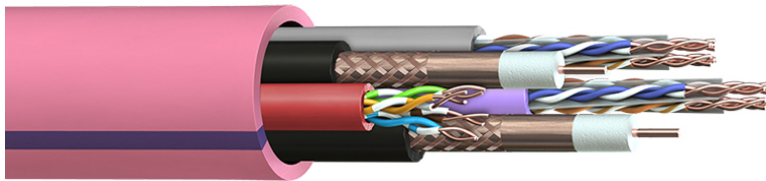


**Part No:** HA5  
**Description:** Featuring 1 x Cat 5E UTP, 2 x Cat 6 UTP and 2 x TV100 coaxial cable. By incorporating all elements in one distinctive outer jacket, the cables offer greater protection and simpler installation with future flexibility



Construction	Cat 5 UTP	Cat 6 UTP	TV 100
Conductor	Bare Copper	Bare Copper	Bare Copper
Conductor Size	24(1)AWG	23(1)AWG	1.02mm
Insulation Material	HDPE	HDPE	FPE
Number of Pairs	4	4	-
Pair Identification	TIA 568	TIA 568	-
Sheath Material	LSHF	LSHF	LSHF
Sheath Colour	Red	Grey, Violet	Black, White

### Overall Construction

Sheath Material: Low Smoke Halogen Free (LSHF)  
 Sheath Colour: Pink + Violet Stripe

### Electrical Characteristics

Nominal Impedance (1-100MHz)	100 ± 15 Ω	100 ± 15 Ω	75 ± 1Ω
Max. Conductor Resistance @ 20°C	≤ 9.38 Ω/100m	≤ 9.38 Ω/100m	< 26 Ω/km
Max. Resistance Unbalanced	≤ 2.5 %	≤ 2.5 %	-
Insulation Resistance	5000MΩ/km	5000MΩ/km	20GΩ/km
Mutual Capacitance	≤ 5.6nF/100m	≤ 5.6nF/100m	-
Capacitance Unbalanced to Earth	≤ 300 pF/ 100m	≤ 330 pF/ 100m	-
NVP	68 %	68.5 %	80 %
Max. Delay Skew	≤ 45 nS/ 100m	≤ 45 nS/ 100m	-
Voltage Rating EN 50525-1	450/750V*	450/750V*	-
Test Voltage	2.5kV (AC)	2.5kV (AC)	-

### TV100 Electrical Performance

Attenuation				Return Loss	
Frequency (MHz)	Attenuation (dB/100m)	Frequency (MHz)	Attenuation (dB/100m)	Frequency (MHz)	dB
5	1.6	860	19.5	30 – 470	≥ 23
50	4.6	1000	21.5	470 – 862	≥ 20
100	6.5	1750	29.0	862 - 2150	≥ 18
200	9.5	2150	32.5		
460	15.0				

### Cat 6 Transmission Performance

Frequency	1	4	10	16	20	31.25	62.5	100	200	250	300	400	500	MHz
Attenuation	1.9	3.5	5.5	7.0	7.9	10.0	14.4	18.6	27.4	31.1	34	41.1	47.1	dB/100m
Return Loss	19.1	21.0	21.0	20.0	19.5	18.5	16.0	14.0	11.0	10.0	9.2	8.0	7.0	dB
NEXT	65.0	64.1	57.8	54.6	53.1	50.0	45.1	41.8	36.0	35.3	34.0	31.9	30.4	dB
PS NEXT	62.0	61.8	55.5	52.2	50.7	47.5	42.7	39.3	34.3	32.7	31.4	29.3	27.6	dB
ACRF	64.2	52.1	44.2	40.1	38.2	34.3	28.3	24.2	18.2	16.2	14.6	12.1	10.2	dB
PSACRF	61.2	49.1	41.2	37.1	35.2	31.3	25.3	21.2	15.2	13.2	11.6	9.1	7.2	dB

**Part No:** HA5  
**Description:** Featuring 1 x Cat 5E UTP, 2 x Cat 6 UTP and 2 x TV100 coaxial cable. By incorporating all elements in one distinctive outer jacket, the cables offer greater protection and simpler installation with future flexibility



### Physical Characteristics

Overall Diameter	18.7 ± 1mm		
Bend Radius	Fixed 8 x OD,	Flexing	10 x OD
Temperature Rating	Fixed -10°C to 70°C,	Flexing	0°C to 60°C
Weight	250 kg/km		

### Standards

Flame Retardant	EN 60332-1-2	Manufactured in accordance to	TIA/EIA 568-C.2, ISO/IEC 11801
Halogen Emissions	EN 60754-2		
Smoke Emissions	EN 61034-2		
RoHS2 Compliance	Yes		
CE Compliant	LVD (2014/35/EU)		

\*Suitable for installation where Band II 450/750v cables are present. Not suitable for connection to mains supply