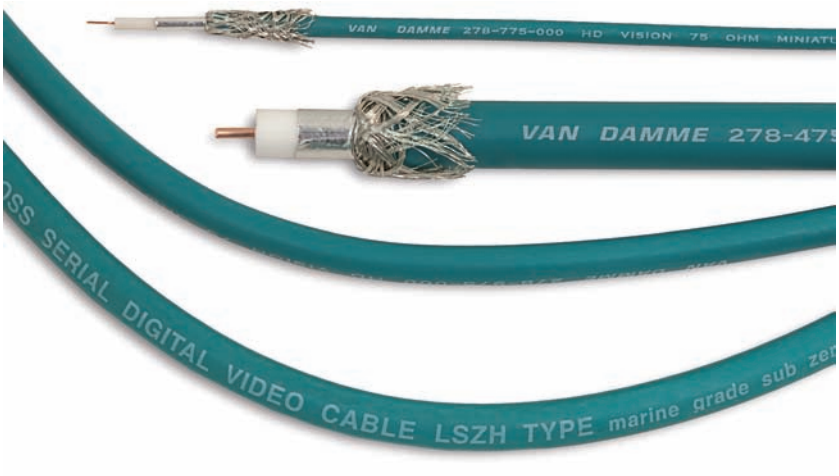
29 HD Vision Digital coaxial cables





The HD Vision range of 75 Ohm precision coaxial cables comprises 4 sizes of Low Smoke Zero Halogen jacketed single coaxials to cover most applications. Great attention has been paid to their electrical characteristics and tolerances to ensure trouble free performance with SMPTE 424M and 292M HD-SDI signals as well as SDI and analogue video.

Applications

- Transmission of HD-SDI, SDI and analogue video signals
- Installation in public buildings, schools and colleges, government premises and marine vessels

Application notes

- Jacket material specified as the thermoplastic polymer SHF1 or a special LSZH polymer; both compliant with IEC 60092 Electrical Installations in ships pt. 359 – Sheathing materials for shipboard power and communication cables
- Fully tested and compliant with the following IEC standards
- IEC 60332.1 Fire retardancy of a single cable
- IEC 60754.1 Amount of Halogen Gas Emissions
- IEC 60754.2 Degree of acidity of released gases
- IEC 61034.2 Measurement of smoke density
- Use of precision 75 Ohm components throughout any signal chain is imperative

HD vision series

Transmission length guidelines

These transmission lengths have been calculated throughout to a maximum attenuation of -30dB at the frequency corresponding to half of the actual signal data rate for SMPTE 259 and -20dB for SMPTE 292 and 424. SMPTE and others advise that 90% of this cable length introduces an appropriate safety factor - the chart below includes an 80% safety factor as jitter and other factors can increase dramatically in the last 20% of a cable run.

	SMPTE 259				SMPTE 292	SMPTE 424
Data rate (clock)	143Mb/s	177Mb/s	270Mb/s	360Mb/s	1.485Gb/s	2.97Gb/s
½ Clock Rate	72MHz	89MHz	135MHz	180MHz	743MHz	1485MHz
Stock code	Recommended transmission length					
278-975-000	316m	284m	230m	188m	58m	42m
278-175-000	443m	399m	328m	287m	90m	64m
278-475-000	730m	652m	510m	466m	144m	99m
278-775-000	148m	132m	108m	66m	29m	20m

Mechanical specification

Stock code		278-475-000	278-175-000	278-975-000	278-775-000
Conductor	Material	Bare ultra pure oxygen free copper	Bare ultra pure oxygen free copper	Bare ultra pure oxygen free copper	Bare ultra pure oxygen free copper
	Stranding	1 x 1.62mm	1 x 1.02mm	1 x 0.81mm	1 x 0.41mm
Dielectric	Material	Gas injected Foam skin polyethylene	Foamed polyethylene	Gas injected Foam skin polyethylene	Gas injected Foam skin polyethylene
	Average thickness	2.70mm	1.80mm	1.45mm	0.30mm
	Diameter	7.10mm ±0.15	4.70mm ±0.15	3.7mm ±0.15	1.90mm
Screen 1	Type	Aluminium/polyester foil 125% coverage	Aluminium/polyester foil 125% coverage	Aluminium/polyester foil 125% coverage	Aluminium/polyester foil 125% coverage
Screen 2	Material	Tinned ultra pure oxygen free copper	Tinned ultra pure oxygen free copper	Tinned ultra pure oxygen free copper	Tinned ultra pure oxygen free copper
Overall Jacket	Material	LSZH polymer Water blue RAL 5021	SHF1 LSZH polymer Water blue RAL 5021	LSZH polymer Water blue RAL 5021	LSZH polymer Water blue RAL 5021
	Average thickness	1.25mm	0.70mm	0.80mm	
	Overall diameter	10.2mm ±0.30	6.80mm ±0.30	5.90mm ±0.30	3.10 mm ±0.15

Physical properties unaged

Stock code		278-475-000	278-175-000	278-975-000	278-775-000
Jacket (at 60ºC)	Tensile strength	>10.3 N/mm²	>9 N/mm²	>8.3 N/mm²	>8 N/mm²
	Elongation	>100%	>125%	>100%	>100%
	Heat shock test	150 ºC x 1 hour – no cracks	150 ºC x 1 hour – no cracks	150 ºC x 1 hour – no cracks	150 ºC x 1 hour – no cracks
Halogen Emissions		≤0.30% Halogen acid gasses according to IEC 60754-2			

Electrical specifications

Stock code		278-475-000	278-175-000	278-975-000	278-775-000
Resistance	Conductor	< 8.2 Ohm/km	<24 Ohm/km	<35 Ohm/km	<145 Ohm/km
	Shield	<4.9 Ohm/km	<8 Ohm/km	10 Ohm/km	
	Insulation	>5000 MOhm/km	>5000 MOhm/km	>5000 MOhm/km	>5000 MOhm/km
Voltage test		1000V DC 1 minute OK	1000V DC 1 minute OK	1000V DC 1 minute OK	1000V DC 1 minute OK
Capacitance		52 pF/m	58 pF/m	56 pF/m	56 pF/m
Velocity of propagation		85%	80%	83%	78%
Impedance at 10MHz			75 Ohms ±1.5	75 Ohms ±1.0	75 Ohms ±3.00
Attenuation	5 MHz	0.52 dB/100m	1.45 dB/100m	1.73 dB/100m	4.40 dB/100m
	10 MHz	1.50 dB/100m	2.00 dB/100m	2.70 dB/100m	6.10 dB/100m
	135 MHz	4.82 dB/100m	7.31 dB/100m	8.45 dB/100m	20.80 dB/100m
	180 MHz	5.55 dB/100m	8.35 dB/100m	10.21 dB/100m	24.00 dB/100m
	270 MHz	6.86 dB/100m	10.30 dB/100m	12.50 dB/100m	29.40 dB/100m
	743 MHz	12.00 dB/100m	17.75 dB/100m	21.97 dB/100m	47.98 dB/100m
	1485 MHz	18.00 dB/100m	25.16 dB/100m	31.30 dB/100m	63.70 dB/100m

Characteristics & description

Stock code	Description	Weight Kg/km
278-475-000	Van Damme HD Vision RG11/U coax LSZH	116
278-175-000	Van Damme HD Vision Serial DVLL coax LSZH	63
278-975-000	Van Damme HD Vision RG59/U coax LSZH	46
278-775-000	Van Damme HD Vision Mini coax LSZH	18

• Maximum reel length 500 metres