

NP 104E

Brilliance® broadcast camera and video cables have been developed to meet the entertainment industry's increased demands for products that offer:

- zero-halogen
- acid-free
- non-toxic
- low-smoke
- fire-retardant
- flame-retardant



New from Belden®:
Brilliance® Broadcast Camera and Video Cables which Fully Comply with Extended International and European Fire Test Standards.

In the event of a fire, low halogen cables can burn extremely fiercely. In addition, a forced air flow intended to cool equipment can provide a continuous supply of oxygen, thus "feeding" the fire. Where this air flow has a HVAC function, fire and toxic smoke may be distributed to other parts of the building.

Beyond zero halogen

Where there is a risk of fire and/or smoke being propagated and spread throughout a building, there is an additional risk of corrosive and toxic damage.

Recent research has demonstrated that several cables in common use may in fact propagate fire and smoke extremely rapidly. These include cables with a fire rating, including low smoke and low halogen. In a number of actual fires, severe structural damage has occurred.

Products tested for public safety

It goes without saying that where public safety is concerned, there can be no shortcuts. Safety standards are high to ensure minimum damage to life, property and the environment. When it comes to cables, make sure you specify the best products for safety. So you can be confident of performance and quality - even in the event of a calamity.

Brilliance® broadcast camera and video cables offer the quality and reliability consistent with your long-term needs. And to ensure top performance, Belden premium cables are now available with extended fire ratings.

Belden has developed these cables in response to the entertainment industry's growing demand for halogen-free cables with acid-free, non-toxic and low-smoke density which are also flame and fire retardant.

Application

Brilliance® broadcast camera and video cables are increasingly used in all types of professional and commercial video environments, i.e. broadcast studios, stadiums, sports arenas, corporate boardrooms, convention centres, theatres and opera houses.

Fire Tests

Belden's premium Brilliance® broadcast camera and video cables meet the following international, European and local specifications:

Specification	International IEC	Europe CENELEC	Germany VDE	Switzerland SEV	Spain UNE	Italy CEI	France NF	United Kingdom BS	Others
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Material Properties

quantity of halogen (halogen free)	IEC 60754-1	EN 50267-2-1	VDE 0482, Teil 267	TP 20B/3C 3.4.5	UNE EN 50267-2-1	CEI 20-37-2	NFC 20-454	-/-	-/-
toxicity index (no toxic gases)	IEC 60754-1	EN 50305	-/-	-/-	UNE EN 50267-2-1	CEI 20-37-7	NFC 20-454	-/-	NES 713
Degree of Acidity (no corrosive gases)	IEC 60754-2	EN 50267-2-2	VDE 0482, Teil 267	TP 20B/3C 3.4.4/3.4.5	UNE EN 50267-2-3	-/-	NFC 20-454	BS 6425 Part 2	-/-

Fire Performance

fire retardant (no flame propagating)	IEC 60332-3C IEC 60333-3	EN 50265-2-1 (HD405.3)	VDE 0482, Teil 266-2-4	TP 20B/3C 3.4.1.3	UNE 20423-3 UNE 20427	CEI 20-22-3	NFC 32070-C1	BS 4066 Part 3	-/-
Flame retardant	IEC 60332-1	EN 50265-2-1 (HD405.1/2)	VDE 0482, Teil 265-2-1	TP 20B/3C 3.4.1.1	UNE EN 50265-2-1	-/-	-/-	BS 4066 Part 1	-/-
Low smoke density	IEC 61034-1	EN 50268-2-1	VDE 0482, Teil 268	TP 20B/3C 3.4.3	UNE EN 50268	CEI 20-37-5	-/-	BS 7622 Part 1	-/-

IEC 60754-1

The cable must be designed with halogen free plastics. This has an additional advantage: no formation of toxic gases.

IEC 60754-2

This test determines the level of corrosion by combustion of insulation-bedding and sheathing compounds. A minimum of 1000 mg (± 5 mg) of insulating or sheathing compound should be heated in a furnace, 500-600 mm long, to a temperature of 935°C.

IEC 60332-3C (Test on fire behavior on cable bundles)

The cables should be flamed/torched from a distance of 75 mm by a propane gas burner. The test duration is 20 min. The test is passed if the flames extinguish by themselves and when no part of the samples is affected above a 2.5 m height from the burner.

IEC 60332-1

A sample of 600 mm is burnt with a flame of a propane gas burner. The test is passed, if the sample has not burnt or when the flames extinguish by themselves and the affected part of the sample

which is located the farthest from the bottom edge of the burner has not reached the opposite edge of the sample.

IEC 61034-1

The measurement system (27 m³ chamber) consists of a light source (a standardised 100 W halogen lamp) and a Selenium or Silicon photo-electric cell, both installed at a height of 2.15 m. A rectangular tray filled with 1 litre of alcohol provides the fire source. A ventilator ensures an even distribution of smoke. The number of test samples depends on the outer diameter. The light intensity is recorded by a plotter. The test is passed if the level of light transmission is not lower than 60%.

Belden's documentation

At Belden, we pride ourselves on delivering testing, documentation and certification for all our products. Product disclosures are available upon request. Specific requests should be directed to Belden Electronics Division Customer Service Department.



Video Triax Cable Triax 11 and 14

De- scription	Part No.	UL NEC/ C(UL)CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Nominal Attenuation			
			ft.	m	lbs.	kg		inch	mm		inch	mm			pF/ft.	pF/m	MHz	dB/ 100 ft.	dB/ 100 m	
Triax 11 • Solid 1.4 mm Silver-Plated Copper • 90% Silver-Plated Copper Braid • 85% Bare Copper Braid																				
Foam Polyethylene Insulation • Red FRNC/LSNH Jacket																				
70°C	7784ANH		1000	305	100.1	52.3	1.4mm	0.256	6.50	90% SPC Braid	0.455	11.30	75	81%	16.8	55.0	1	0.2	0.5	
			1968	600	197.1	102.9	16 AWG			+ 85% BC Braid							10	0.5	1.6	
			3280	1000	328.5	171.5	Solid SPC										20	0.7	2.3	
							18.4 Ω /km*										40	1.0	3.3	
							11.0 Ω /km**			7.4 Ω /km***							50	1.1	3.7	
										7.2 mm							60	1.3	4.1	
																	100	1.6	5.2	
																	300	3.1	10.3	
																	750	4.6	15.2	
			Return loss at 5-750 MHz: ≥ 23 dB				Screening attenuation at 30-1000 MHz: ≥ 75 dB													
			Pulling Tension: 300 N																	
			Spools are one piece, but length may vary 0% to +10% from length shown, 1000 m +/-5%.																	

Triax 14 • Stranded (7x0.75) 2.2 mm Silver-Plated Copper • 80% Silver-Plated Copper Braid • 80% Bare Copper Braid

Foam Polyethylene Insulation • Red PVC Jacket																				
70°C	7785ANH		1000	305	157.9	80.3	2.21 mm	0.382	9.70	80% SPC Braid	0.571	14.50	75	82%	16.5	54.0	1	0.1	0.4	
			1640	500	259.0	131.6	12 AWG			+ 80% BC Braid							10	0.4	1.3	
			1968	600	310.8	157.9	(7x0.75) SPC										20	0.5	1.7	
							12.1 Ω /km*										40	0.8	2.5	
							5.7 Ω /km**			6.4 Ω /km***							50	0.9	2.8	
										10.4 mm							60	0.9	3.1	
																	100	1.3	4.2	
																	300	2.3	7.6	
																	1000	4.4	14.3	
			Return loss at 5-850 MHz: ≥ 21 dB				Screening attenuation at 30-1000 MHz: ≥ 75 dB													
			Pulling Tension: 550 N																	
			Spools are one piece, but length may vary 305 m 0% to +5%, 500 m $\pm 5\%$, 600 m 0% to +10% from length shown.																	

* DC loop resistance • ** DC resistance inner conductor • *** DC resistance outer conductor • DCR = DC resistance • BC = Bare Copper • SPC = Silver-Plated Copper

