

URANUS

FIRE RESISTANT CABLES



URANUS

**UNCOMPROMISING
QUALITY**



Uranus Fire Resistant cables has been designed as user-friendly and high-performance cables which is fire resistant, halogen-free, flame retardant, low smoke and certified by LPCB. We are using the latest technology, materials and equipment's to meet requirements of standards.

Uranus Fire Resistant cables are used as a power and control cables:

- Machine and equipment that are required to continue its function during a fire (emergency elevators, fire water pumps eg.).
- Ventilation systems which are connected to fire alarm system.
- In emergency lighting at fire escape exits.
- Emergency power supplies.
- In places where human life and valuable materials and equipment need to be protected.

Typical applications

BS 5839-1: Fire detection and fire alarm systems for buildings – Code of practice for design, installation, commissioning and maintenance of systems in non-domestic premises.

BS 5839-8: Fire detection and fire alarm systems for buildings – Code of practice for design, installation, commissioning and maintenance of voice alarm systems.

BS 5839-9: Fire detection and fire alarm systems for buildings – Code of practice for design, installation, commissioning and maintenance of fire detection and fire alarm systems in domestic premises.

BS 5266-1: Emergency lighting. Code of practice for the emergency lighting of premises.

BS 8519: Selection and installation of fire-resistant power and control cable systems for life safety and fire-fighting applications.

Applicable Standards:

URANUS BM30 FE180 PH30	URANUS BMUR120E30	URANUS BMUR120
BS 6387:2010 (Category CWZ) IEC 60331-21:1999 EN 50200:2015 (Class PH30) EN 60754-1:2014 EN 60754-2:2014 EN 61034-2:2005+A1:2013	BS 7629-1:2015 BS 6387:2013 (Category CWZ) EN 50200:2015 (Class PH120) EN 50200:2015 Annex E (30 min) BS 5839-1:2013 (Clause 26.2d Standard) EN 60754-2:2014 EN 60332-3-22:2009	BS 6387:2013 (Category CWZ) EN 50200:2015 (Class PH120) EN 61034-2:2005+A1:2013 EN 60754-1:2014 EN 60754-2:2014 EN 60332-3-22:2009

Features and Advantages:

Flexible

Very flexible construction that makes the installation easier in all conditions.

LSZH (Low Smoke Zero Halogen)

Combustion gases with very low toxicity, low smoke emission, and no corrosive gas, for the safeguard of human life and electronic equipment.

Flame retardant

Limiting the spread of the fire along the cable run, flame barriers can be avoided or reduced.

Protected against electrostatic noise

Cable is fully screened and conductors are twisted.

Moisture resistant

No special terminals are required to prevent moisture absorption. It can be installed in damp environments.

Suitable for data transmission

Twisting of conductors make the cable suitable for clear data transmission

URANUS BMUR120E30

Flame Temperature	Test Condition	Time	10'	15'	20'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'		180'
950°C		BS 6387:2013 Cat.C															180 min.
650°C		BS 6387:2013 Cat.W				30 min.											
					15 min.												
950°C		BS 6387:2013 Cat.Z			15 min.												
					15 min. (1 impact / 30 sec.)												
830°C		BS EN50200:2006				PH 30							PH 90		PH 120	120 min.	
																120 min. (1 impact / 5 min.)	
830°C		BS EN50200:2006 + ANNEX E				30 min.											
						30 min. (1 impact / 5 min.)											
						15 min.											

BS 6387 Cat. CWZ:

Cat. C:

Cat.C subjects the cable under test to a flame via direct impingement corresponding to a temperature attack of $950^{\circ}\text{C} \pm 40^{\circ}\text{C}$.



Cat. W:

Cat.W subjects the cable under test to a flame via direct impingement corresponding to a temperature attack of $650^{\circ}\text{C} \pm 40^{\circ}\text{C}$ with direct application of water simulating a sprinkler system.



Cat. Z:

Cat.Z subjects the cable under test to a flame via direct impingement corresponding to a temperature attack of $950^{\circ}\text{C} \pm 40^{\circ}\text{C}$ with indirect application of mechanical shock.



FIRE RESISTANT

BS EN50200 (Class pH30-pH60-pH120):

A single piece of cable is attached to a special fiber glass wall with cable at the minimum bending radius. It is burned with the min. test temperature 830°C propane burner. The rated tension values of the cable are applied on the conductors during the test. Every five minutes a mechanical shock of 25kg is applied to the wall the cable is attached to. The tension values must be preserved during the test.

BS EN 50200 + ANNEX E

In addition to the test conditions EN 50200-PH30 after 15 min and with the flame and shock still being applied, the water spray shall be started. The application of water shall continue until the end-point of the test.



FLAME RETARDANT

BS EN 60332-1-2:

A sample cable of 600 mm will be fixed vertically in a metal chamber with exposed front side. A propane gas burner will be mounted in order to obtain a 45° angle with axis of the sample cable. The test time is dependent on the cable diameter. If the sample does not burn, or if the flame extinguishes itself, the test shall be deemed as successful.

BS EN 60332-3-22 Cat. A:

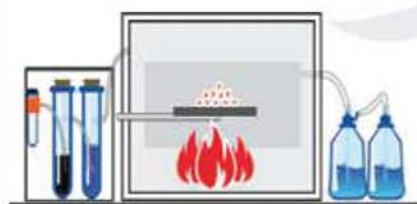
The test samples are mounted on a steel ladder. The total number of test pieces in the test sample shall be that number required to provide a nominal total volume of non-metallic material of 7 l/m of test sample. The steel ladder is placed on the rear part of a test chamber having a width of 1m, depth of 2m & a height of 4m. The test chamber should be ventilated by air vent. The test flame is applied on the sample cable for 40min. The test is passed if the flames extinguish on their own and no part of the samples is damaged over a length of 2.5m.



ACID GAS EMISSION

BS EN 60754-2:

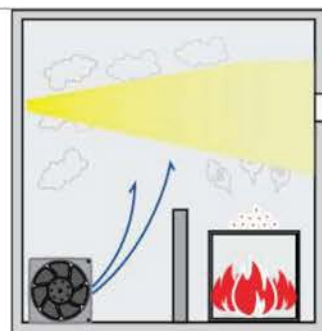
This test indirectly allows measuring emission of corrosive gas by insulation and sheath compounds. It is possible to measure small quantities of halogens during measurement of the pH-value and the conductivity. In a 500-600mm long furnace, at least 1g of insulation or sheath compound should be heated up to a temp of 935°C . Air flow will ensure that combustion gases pass through a bottle filled with purified water. The test is passed if the pH-value is lower than 4,3 and the electrical conductivity does not exceed $100 \mu\text{S}/\text{cm}$



SMOKE DENSITY

BS EN 61034-2:

The volume of test chamber is 3m^3 . The measurement system consists of a light source (a standard 100W halogen lamp) and a selenium or silicon photo-electric cell, both installed at a height of 2,15m. A rectangular tray will be filled with alcohol. A ventilator is used to ensure the distribution of smoke. The length of the test samples is 1m. The number of test samples depends on the outer diameter. The samples should be attached horizontally above the tray which is filled with alcohol. The ventilator is started and the alcohol is ignited. Light intensity is recorded by a plotter which is connected to the photocell. The test is passed if the level of light transmission does not exceed the values given in the above table during the test.





URANUS BM30 FE180 PH30

Constructional Properties	
Conductor	Electrolytic Solid Copper Wire (IEC 60228/ DIN EN 60228 / EN 60228 Class I)
Insulation	EN 50363-1 E12 Silicone Compound
Core Identification	HD 308 S2 (for details please see color code table below)
Lay up	Cores stranded in layers
Overall Screen	ALPET Foil
Sheath	Halogen free flame retardant compound (HFFR/LSHF/FRNC)
Sheath Color	Red (RAL 3000) or White (RAL 9003)
Drain Wire	0.80 mm solid tinned copper wire

Technical Properties	
Operating Voltage	300/500V
Test Voltage	2 kV
Insulation Resistance	min. 200 MΩ x km
Temperature Range	Operation: -30°C...+90°C Installation: -5°C...+60°C
Min. Bending Radius	Operation: 8 x Cable diameter Installation: 15 x Cable diameter
Flame Resistant Test	IEC 60332-1-2
Flame Propagation Test (Cat A)	IEC 60332-3-24
Smoke Density Test	IEC 61034-1/2
Halogen Free Test	IEC 60754-1
Corrosive Gas Test	IEC 60754-2, BS/EN 50267
Circuit Integrity with Shock and Water Test (C,W,Z)	BS 6387:2013
Circuit Integrity Test (FE180)	IEC 60331-21
Circuit Integrity with Shock Test (PH 30)	EN 50200 PH30

Cross Section (mm²)	Approx. Overall Diameter (mm) (± %10)	Conductor Resistance (Ω/km)	Approx. Weight (kg/km)
2 x 1.5 mm²	6.70	12.1	67
3 x 1.5 mm²	7.10		85
4 x 1.5 mm²	7.90		109
2 x 2.5 mm²	7.90	7.41	94
3 x 2.5 mm²	8.40		125
4 x 2.5 mm²	9.20		156

No of Cores		HD308 S2 COLOR CODE		
2 Core	BLUE	BROWN		
3 Core	BROWN	BLACK	GREY	
4 Core	BLUE	BROWN	BLACK	GREY



URANUS BMUR120E30

Constructional Properties	
Conductor	Electrolytic Solid Copper Wire (IEC 60228/ DIN EN 60228 / EN 60228 Class I)
Insulation	EN 50363-1 EI2 Silicone Compound
Core Identification	HD 308 S2 (for details please see color code table below)
Lay up	Cores stranded in layers
Overall Screen	Tinned Copper Drain Wire +Aluminium Foil (AL-PE)
Sheath	Halogen free flame retardant compound (HFFR Compound, BS 7655-6.1 LT53)
Sheath Color	Red (RAL 3000) or White (RAL 9003)
Reference Standard	BS 7629-1 : 2015
Technical Properties	
Operating Voltage	300/500V
Test Voltage	2 kV
Insulation Resistance	min. 100 MΩ x km
Temperature Range	Operation: -40°C ~ +70°C
Min. Bending Radius	Operation: 6 x Cable Diameter
Flame Resistant Test	IEC 60332-1-2, VDE 0482-332-1-2, EN 60332-1-2
Flame Propagation Test (Cat A)	IEC 60332-3-22, VDE 0482-332-3-22, EN 60332-3-22
Smoke Density Test	IEC 61034-2, VDE 0482-1034-2, EN 61034-2
Halogen Free Test	IEC 60754-1, VDE 0482-267-2-1, EN 50267-2-1
Corrosive Gas Test	IEC 60754-2, VDE 0482-267-2-3, EN 50267-2-3
Circuit Integrity with Shock and Water Test (C,W,Z)	BS 6387:2013
Circuit Integrity Test (FE180)	IEC 60331-21
Circuit Integrity with Shock Test (PH120)	EN 50200; VDE 0482-200; BS EN 50200
Circuit Integrity with Shock Test (With Water Option 30min)	EN 50200 + ANNEX E ; VDE 0482-200 + ANNEX E; BS EN 50200 + ANNEX E



URANUS BMUR120E30

Cross Section (mm ²)	Approx. Overall Diameter (mm) (± %10)	Insulation Resistance (MΩ/km)	Conductor Resistance (Ω/km)	Conductor Loop Resistance (Ω/km)	Drain Wire Resistance (Ω/km)	Current Load (A)
2 x 1 mm ²	6.90	100	18.1	36.2	1 mm ² =18.2	16
2 x 1.5 mm ²	7.90		12.10	24.20	1.5 mm ² = 12.2	20
3 x 1.5 mm ²	8.20					
4 x 1.5 mm ²	9.20					
2 x 2.5 mm ²	9.30		7.4	15.1	2.5 mm ² =7.56	25
3 x 2.5 mm ²	11.00					
4 x 2.5 mm ²	10.80		4.61	9.20	4 mm ² =4.7	24
2 x 4 mm ²	10.30					
3 x 4 mm ²	10.40					
4 x 4 mm ²	12.10					

No of Cores	HD308 S2 COLOR CODE			
2 Core	BLUE		BROWN	
3 Core	BROWN	BLACK	GREY	
4 Core	BLUE	BROWN	BLACK	GREY



URANUS BMUR120

Constructional Properties	
Conductor	Electrolytic Solid Copper Wire (IEC 60228/ DIN EN 60228 / EN 60228 Class 1(RE)) & 2 (RM) Electrolytic Copper
Insulation	EN 50363-1 EI2 Cross-linked Ceramic Foaming Polymer Compound
Insulation Color	2-Core : Brown, Blue 3-Core : Brown, Black, Grey 4-Core: Blue, Brown, Black, Grey
Core Identification	HD 308 S2 (for details please see color code table below)
Lay up	Cores stranded in layers
Wrapping	Pes Tape
Overall Screen	Tinned Copper Drain Wire(0.5 mm ²) + AL-Pes Tape
Sheath	Halogen free flame retardant compound (EN 50290-2-27 HFFR Compound)
Sheath Color	Red (RAL 3000) or White (RAL 9003)

Technical Properties	
Operating Voltage	300/500V
Test Voltage	2 kV
Insulation Resistance	min. 100 MΩ x km
Temperature Range	-30°C ~ +70°C (Temp. for stationary condition) -5°C ~ +50°C (Temp. for moving condition) + 90°C (Max. Permissible Operating Temp at Conductor)
Min. Bending Radius	Operation: 6 x Cable Diameter
Flame Retardant Test	IEC 60332-1-2, VDE 0482-332-1-2, EN 60332-1-2
Flame Propagation Test (Cat C)	IEC 60332-3-24, VDE 0482-332-3-24, EN 60332-3-24
Smoke Density Test	IEC 61034-2, VDE 0482-1034-2, EN 61034-2
Halogen Free Test	IEC 60754-1, VDE 0482-267-2-1, EN 50267-2-1
Corrosive Gas Test	IEC 60754-2, VDE 0482-267-2-3, EN 50267-2-3
Circuit Integrity with Shock and Water Test (C,W,Z)	BS 6387:2013
Circuit Integrity Test (FE180)	IEC 60331-21
Circuit Integrity with Shock Test (PH120)	EN 50200; VDE 0482-200; BS EN 50200
Cable Markings	URANUS BMUR120 ELECTRIC CABLE x mm ² EN50200 PH120 BS 6387-CWZ 300/500V LPCB1469b-(cl-.....) YYYY @ue/@OK CE ROHS CCCCC mt I CCCCC mt



URANUS BMUR120

Cross Section (mm²)	Approx. Overall Diameter (mm) (± %10)	Conductor Resistance (Ω/km)	Approx. Weight(kg/km)
2 x 1 (RE)	6.00	18.1	60
2 x 1.5 (RE)	7.00	12.1	79
2 x 1.5 (RM)	7.40		82
3 x 1.5 (RE)	7.60		105
3 x 1.5 (RM)	8.00		109
4 x 1.5 (RE)	8.30		128
4 x 1.5 (RM)	9.00		140
2 x 2.5 (RE)	8.40	7.41	113
2 x 2.5 (RM)	8.80		116
3 x 2.5 (RE)	9.10		153
3 x 2.5 (RM)	9.50		156
4 x 2.5 (RE)	10.10		195
4 x 2.5 (RM)	10.60		201

Note:- RE - Class 1 Solid conductor
RM - Class 2 Stranded conductor

No of Cores		HD308 S2 COLOR CODE		
2 Core	BLUE		BROWN	
3 Core	BROWN	BLACK	GREY	
4 Core	BLUE	BROWN	BLACK	GREY

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Authorized Distributor/Dealer
