297-884 to 902

CALFLAM CWZ FIRE RESISTANT CABLES

The Draka Calflex range of fire alarm cables "Calflam CWZ" has been specifically designed to meet the latest requirements and standards for fire detection and alarm systems These systems and applicable codes of practice are found in BS 5839 Part 1 and Codes of Practice for Emergency Lighting in BS 5266 Part 1

Calflam CWZ has been designed to assist in the protection of human life in the event of fire in public buildings or industrial installations Calflam CWZ when installed will help ensure a safe and controlled evacuation in a fire situation

Calflam CWZ is an innovative product designed to meet new and future requirements of organisations responsible for wiring regulations The primary emphasis being increased demands for safety in public and industrial environments

Draka Calflex designed Calflam CWZ to meet the requirements of today's markets Calflam CWZ is used not only in standard fire alarm installations such as in commercial and public buildings, but has been specifically designed to meet the stringent requirements of the oil, gas, power generation and process industries

Calflam CWZ offers a complete cabling solution for today's fire detection and alarm market

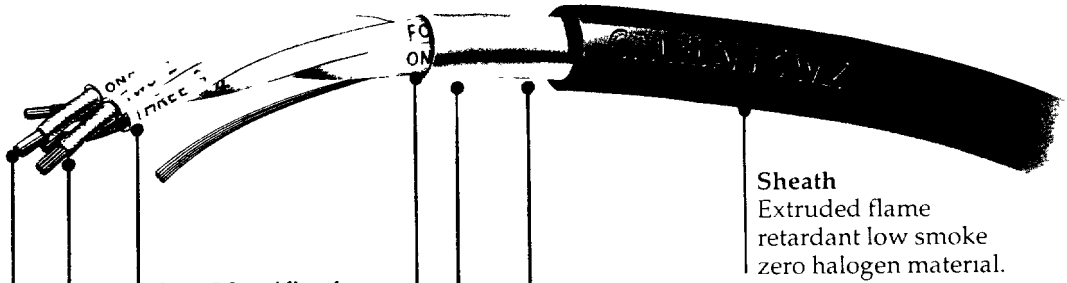
Calflam CWZ Applications

Smoke Detection
Emergency Lighting
Smoke Spill Fans
Sprinklers
Addressable Alarm Systems
Emergency Evacuation Communicators
Automatic Doors
Elevator Doors.

Major Construction Projects

Calflam CWZ has been used on many major projects including
Gatwick Airport Terminal
Heathrow Airport Terminal
Kellogg's Cornflakes Manufacturing Plant
Pergau Hydro-Electric Power Station Malaysia
Peel "B" Power Station Isle of Man
Drax FGD Desulphurisation Plant
North West Water H Q Warrington
British Gas - Morecambe Bay
Intel Manufacturing Plant - Republic Of Ireland

Calflam CWZ Construction



Sheath
Extruded flame retardant low smoke zero halogen material.

Core Identification
White cores black alpha numeric printing

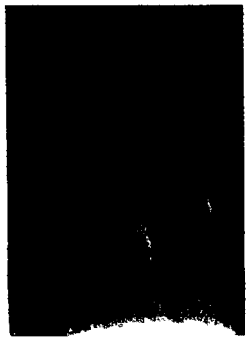
Fire Barrier
Mica Glass tape fire barrier over each conductor.

Insulation
Cross linked polyethylene XLPE

Screening
Aluminium/polyester tape is applied with the metallic side down in continuous contact with a stranded tinned copper drain wire over the binder tape.

Binder
Non hygroscopic binder tape applied over the cores.

Conductors
Plain annealed stranded copper conductors to BS 6360 Class 2.



Calflam Calflam CWZ Fire Performance

Propagation of flame	IEC 332 Part 3 category A, BS 4066 Part 3
Circuit integrity in fire	IEC 331 : 3 hours at 750°C, BS 6387 Category C: 3 hours at 950°C
Resistance to fire with water	BS 6387 category W :15 minutes at 650°C plus 15 minutes with continous water spray
Resistance to fire with mechanical shock	BS 6387 category Z :15 min at 950°C with continuous mechanical shock
Smoke emissions	BS 6724, IEC 1034, BS 7622

Electrical and Performance Characteristics

Voltage Rating	300/500 Volts
Test voltage	2000 Volts
Temperature Rating	-20°C to + 70°C
Insulation Resistance at 20 C	5GΩ/km

Conductor Size	Number of cores	Nominal OD	Gland Size	Weight kg/km	Volt drop per Amp/m	Max conductor resistance Ohms/m	Capacitance core/core pF/m	L/R Ratio μH/Ω
1 5mm	2 core	9 2mm	20s	110kg	29	12 4	79	28
1 5mm	3 core	10 0mm	20s	140kg	25	12.4	73	28
1 5mm	4 core	10 9mm	20s	155kg	25	12 4	46	28
2 5mm	2 core	10 2mm	20s	150kg	18	7.6	85	44
2 5mm	3 core	10 9mm	20s	185kg	15	7 6	79	44
2 5mm	4 core	12 1mm	20s	205kg	15	7 7	48	44

Installation Recommendations

Calflam CWZ should always be installed by competent personnel in accordance with BS 7671 REQUIREMENTS FOR ELECTRICAL INSTALLATIONS The 16th Edition IEE wiring regulations

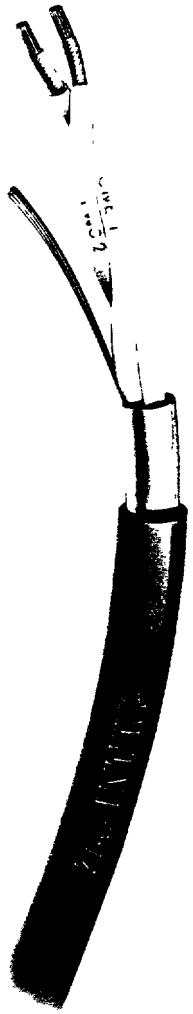
Temperature : The cable can be installed at temperatures around 0°C but the ease of installation is improved if the cable is installed at ambient temperatures.

Bending Radius : 10 times the overall diameter of the cable

Cable Fixing : The cable can be fixed direct to most surfaces The cable should be fixed using purpose designed fire resistant clips. The spacing of the clips should be in accordance with the 16th Edition of the IEE wiring regulations

Glanding : For normal areas and conditions of use a standard A2 brass or nylon stuffing gland is recommended. When the cable is being installed in hazardous/intrinsically safe areas i e. Zone 1 or 2 the appropriate brass flameproof/barrier gland should be used

Jointing : This applies to collective and individually screened cables. We advise that to maintain screen integrity when the cores or pairs are joined the drain wires should be twisted together. A heat shrink sleeve should then be applied over both foil screens ensuring the metallic surfaces touch the drain wire.



Calflam CWZ Benefits

Conductors - Calflam CWZ uses stranded conductors many other fire alarm cables have solid conductors which are stiff and can have a "cheese wire effect" contributing to shorts after installation. Calflam CWZ has more flexible conductors which contributes to ease of installation in tight panel areas
Fire Barrier - Calflam CWZ incorporates a mica glass fire barrier over each conductor other fire alarm cables use only one, overall mica glass fire barrier
Insulation - Calflam CWZ uses XLPE as its insulation, XLPE is extremely strong mechanically. Many silicone rubber cables are prone to core to core shorting due to rough installation techniques.
Identification - Each core is numbered with indelible printing aiding installation and eliminating the need for labels or ferrules
Screen - Calflam CWZ uses a conventional 100% spirally applied tape screen unlike some alarm cables which have a stiff solid aluminium screen that can contribute through sharp edges to core to screen shorts
Outer Sheath - Mechanically strong FR LSOH, embossed "Calflex Cables - Calflam CWZ" Indelible ink printing is available upon request
Intrinsically Safe - The inductance over resistance ratio of Calflam CWZ is lower than that specified within BS5308, thus making the cable suitable for use in hazardous areas where intrinsically safe circuits are required
Electrical Performance - The capacitance characteristics of Calflam CWZ are much lower than other fire alarm cables currently available. This enables greater panel to panel distances and higher transmission rates Calflam CWZ is ideal for data transmission and for use on "Addressable Alarm Systems".
Ease of Installation - Calflam CWZ can be installed using conventional techniques used for instrument/data cables. Special tools and terminations are not required.
Colours - Calflam CWZ is available in all colours, standard stock colours are red and white
Availability - Calflam CWZ is available from stock in all sizes, a full inventory is held in our U.K. warehouse. Calflam CWZ is stocked in either 500m or 1000m drum lengths.

Applicable Standards for Calflam CWZ

IEC 331 : Fire resistant tests for electric cables
IEC 332. Tests carried out on cables under fire conditions
IEC 754. Tests carried out on gasses evolved during combustion of electric cables
BS 4066 . Tests carried out on cables under fire conditions
BS 5266 : Codes of practice for emergency lighting
BS 5839 : Standard for Fire Alarms and Fire Detection systems in buildings
BS 6387 . Performance tests for electric cables under fire conditions that require circuit integrity
BS 5308 · Standard for cables being used in intrinsically safe circuits in hazardous areas where the L/R ratio is specified

Product Approval

The range of Calflam CWZ specified complies with all categories of CWZ as specified in BS 6387. Product approval has been granted by the Loss Prevention Certification Board (LPCB).

QUALITY SYSTEM
CERTIFICATE No 210
ASSESSED TO BS 5750 PART 1

Quality System Approval

Calflex Cables hold ISO 9001 Quality System Approval awarded by The British Approvals Service for Cables (BASEC) and The Loss Prevention Certification Board (LPCB).

QUALITY SYSTEM
CERTIFICATE No CS1-092
ASSESSED TO ISO 9001

Other Calflex Reduced Fire Propagation Cables Available

Steel Wire Armour
Galvanised Steel Wire Braid
Tinned Copper Wire Braid
Chemical & Hydrocarbon Resistant Sheath
Lead Sheaths
Moisture Resistant Sheaths
Hard Grade Sheaths

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