

# دوكاب Ducab

## Ducab Smokemaster Low Smoke Zero Halogen (LSZH)



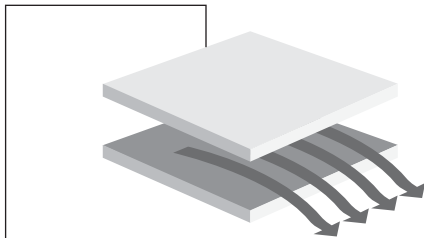
حلول متقدمة للكابلات من خلال التقنية والابداع  
Advanced Cable Solutions Through Technology and Innovation

**BICC**

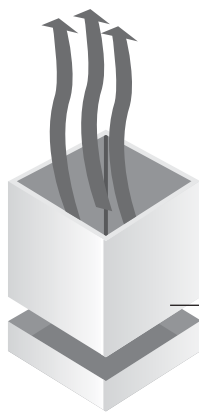
## Low Smoke Zero Halogen Cables – Why?

All buildings and structures are at risk from fire and so are the people who use them.

The threat which a fire poses isn't confined to the flames and the heat. Smoke, fumes and acid gases produced from the many items within a building's structure, fabric and fittings can spread quickly during a fire.



The structural services of the building, including the underfloor voids and vertical riser ducts which accommodate cables, can aid the spread of fire and the spread of the smoke and fumes which the fire produces.



These essential structural features form natural draught corridors which spread the problem of smoke and fumes to areas of the building which may not be affected by the fire itself – putting people at risk.

Installing **Ducab Smokemaster** cables can reduce the threat to life by extending the escape and rescue time available.

Smoke diminishes the time available by reducing visibility, hindering mobility and causing bodily harm.

Corrosive acids are formed when the gases released by fire come into contact with moisture. The moisture could be in the air, or could be generated by automatic sprinkler systems. Acid gases are poisonous irritants to people inhaling them. They

also attack the electronic circuitry of sophisticated equipment used in modern offices causing costly damage. **Ducab Smokemaster** does not produce acid gas.



**Ducab Smokemaster** cables provide improved fire protection and reduce the risk to building occupants. They are slow to ignite, burn slowly and most importantly, give out negligible amounts of smoke and fumes during a fire.

Much more time is available to enable the orderly evacuation of people from buildings when a fire is discovered. Besides the time needed for people to evacuate a building, extra time is essential to the emergency services personnel who have to enter the building to control and extinguish the fire and assist those needing help.

## Ducab Smokemaster cables resist ignition

- extending the time before cables start to burn in a fire, providing more time to escape.

## Ducab Smokemaster cables reduce fire propagation

- by being slow to burn, reducing the immediate threat and extending escape time.

## Ducab Smokemaster cables reduce smoke to a minimum

- reducing disorientation, confusion and panic. With little smoke, people can see the EXIT routes clearly and have more time to follow them to safety. Emergency services have more time to operate effectively.

## Ducab Smokemaster cables do not contain halogens

- hydrochloric acid is not formed during a fire. There is no threat of inhalation of this highly irritant chemical and no damage to sensitive or costly equipment.

## Ducab Smokemaster cables

- **improve safety and human survival in a fire**
- **allow people to see and breathe safely for longer**
- **increase time for people to escape**
- **improve visibility and safety for emergency services**
- **reduce fire damage of buildings and electronic equipment**
- **are designed to improve public and environmental safety**

**Specially conducted fire tests have confirmed the performance advantage of Ducab Smokemaster**

### Fire Test after 6 minutes

**Exit and escape lights obscured by dense smoke, hindering escape.**



**PVC Cable**



**Ducab Smokemaster cable**

**Exit and escape lights allowing safer evacuation.**

# Typical Applications

## Places which are regularly densely populated

- Hotels
- Commercial Offices
- Multi-Storey Dwellings
- Public Buildings

## Housing people with limited mobility

- Hospitals
- Clinics
- Care Homes
- Retirement Homes

## Where people are unfamiliar with a building's layout

- Shopping Malls
- Cinemas and Theatres
- Airports



## Involving valuable equipment

- Computer Suites
- Defence Installations
- Research Laboratories
- Telecommunications Centres

## Involving high security

- Defence installations
- Prisons
- Research Establishments
- Computer Centres

## Performance Standards

**All Ducab Smokemaster products are manufactured to comply with the following fire safety standards:**

### Flame Propagation

**Ducab Smokemaster** armoured cables are flame retardant and comply with BS EN 50266/IEC 60332-3.

**Ducab Smokemaster** wiring cables comply with BS EN 60332 and IEC 60332-1.

### Acid Gas Emissions

IEC 60754 Part 1 & Part 2 define the tests for detecting hagen acid gas emissions from burning materials taken from cables.

**Ducab Smokemaster** cables comply with these halogen free emission standards when exposed to fire.

### Smoke Emission

**Ducab Smokemaster** cables comply with the smoke emission requirements of IEC 61034.

#### Emirates Towers Dubai

One of the safest buildings in Dubai thanks to

**Ducab Smokemaster** cables



# DucabSmokemaster

## DucabSmokemaster

### Armoured Cables to BS 6724

- **Complies with acid gas emission requirements of IEC 60754 Part 1 & Part 2 and also complies with Category C of IEC 60332 - 3.**

- **Ducab Smokemaster Armoured Cables are suitable for a wide range of applications including where sections of the cable are underground.**

- **Low Smoke Zero Halogen properties, no halogen acid gas emissions and reduced ignition and fire propagation properties.**

- **The cable construction combines XLPE conductor in sulation with Ducab Smokemaster LSZH beding and outer sheath.**

- **90°C conductor operating temperature provides the opportunity to reduce conductor sizes.**

- **Approved by Lloyds Register (UK)**

## DucabSmokemaster

### Wiring Cables to BS 7211

- **Ducab Smokemaster insulation allows continuous conductor operating temperatures up to 90°C.**

- **Maximum conductor temperature allowed under short circuit conditions is 250°C.**

- **Higher operating and short circuit temperatures provide opportunity to reduce conductor sizes.**

- **All cables have clear identification and marking**

- **Independent product testing to BS 7211 by Warrington Fire Research**

- **BASEC Approved (1.5 to 630 sq mm sizes)**

Supplied by Digital Stout UAE

# Technical Data

## Ducab Smokemaster Wiring Cables to BS 7211

### Construction

Stranded plain annealed copper single core conductors insulated with crosslinked **Ducab Smokemaster** Compound. Voltage Grade: 450/750V.

### Identification

**Ducab Smokemaster** Wiring Cables are identified with the legend – BICC **Ducab Smokemaster LSZH** BS 7211 Z – and are available as standard in Red, Black, Yellow, Blue and Green/Yellow colours. Other colours can be manufactured to order.

### Installation

The cables are primarily intended for installation in conduit or trunking.

### Current Ratings

The following ratings apply to cables bunched and enclosed in conduit on a wall, or enclosed in trunking, and are based on an ambient temperature of 30°C.

**Table 1 Ducab Smokemaster Wiring Cables 450/750V Grade**

Nominal Conductor Area	Radial Thickness of Insulation	Mean Overall Diameter (Upper limit)	Approximate Cable Weight	Maximum conductor Resistance at 20°C	Enclosed in Conduit (method 3)			
					Two Cables, Single Phase a.c. Current Rating	Two Cables, Single Phase a.c. Volt Drop per amp per metre	Three or Four Cables, Three Phase a.c. Current Rating	Three or Four Cables, Three Phase a.c. Volt Drop per Amp per Metre
mm <sup>2</sup>	mm	mm	kg/km	ohm/km	amp	mV/A/m	amp	mV/A/m
1.5	0.7	3.4	22	12.1	22	31	19	27
2.5	0.8	4.1	33	7.41	30	19	26	16
4	0.8	4.7	49	4.61	40	12	35	10
6	0.8	5.4	69	3.08	51	7.9	45	6.8
10	1.0	7.0	116	1.83	71	4.7	63	4.0
16	1.0	8.0	175	1.15	95	2.9	85	2.5
25	1.2	10.1	274	0.727	126	1.90	111	1.65
35	1.2	11.3	367	0.524	156	1.35	138	1.15
50	1.4	13.0	495	0.387	189	1.05	168	0.90
70	1.4	15.0	699	0.268	240	0.75	214	0.65
95	1.6	17.0	968	0.193	290	0.58	259	0.50
120	1.6	19.0	1164	0.153	336	0.48	299	0.42
150	1.8	21.0	1413	0.124	375	0.43	328	0.37
185	2.0	23.5	1828	0.0991	426	0.37	370	0.32
240	2.2	26.5	2320	0.0754	500	0.33	433	0.29
300	2.4	29.5	2988	0.0601	573	0.31	493	0.27
400	2.6	34.3	3700	0.0470	683	0.29	584	0.25
500	2.8	38.2	4750	0.0366	783	0.28	666	0.24
630	2.8	42.5	6000	0.0283	900	0.27	764	0.23