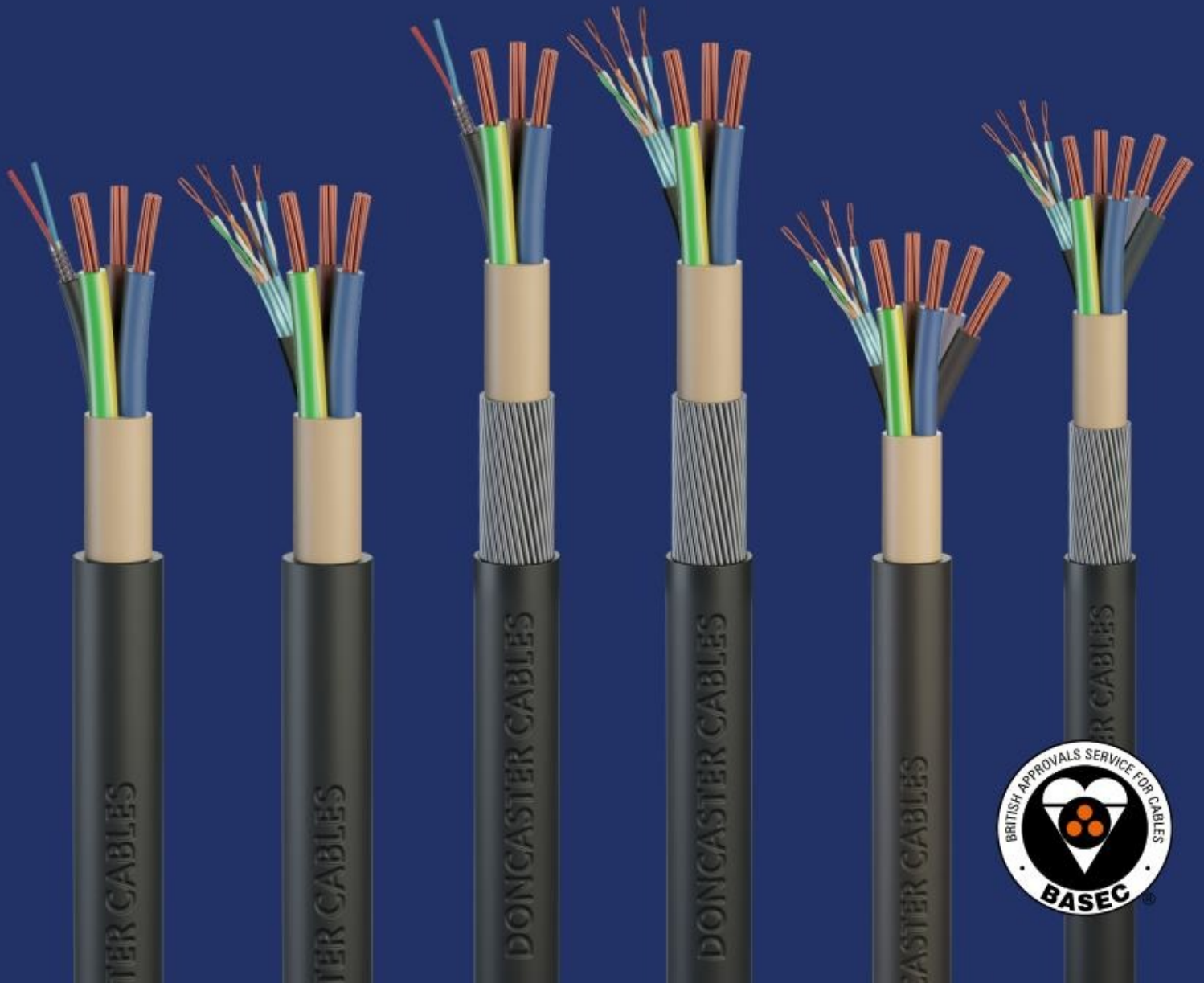




Doncaster **Cables**



www.ev-ultra.com





EV-Ultra® is an innovative cable designed and manufactured by Doncaster Cables. Originally designed for electric vehicle charge points, EV-Ultra® incorporates power conductors and data within the same cable, making it neater, faster, and easier to install. Helping to develop the EV infrastructure to get the UK driving more electric vehicles.



EV Chargers to be installed in every new build.

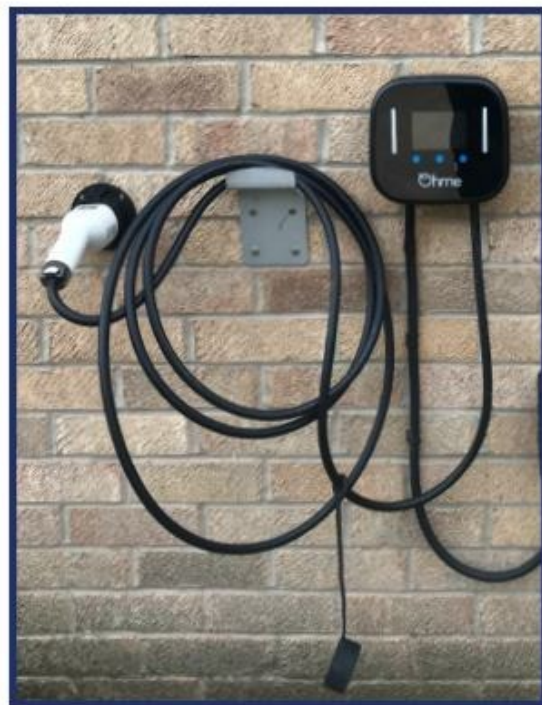
The UK Government and other bodies have identified that significant investment is required with regards to the infrastructure of electric vehicle charge points.

New legislation (requirement S1 and regulation 44D of the Building Regulations) now make it mandatory for all new residential buildings with associated parking to have access to an electric vehicle charging point.

This legislation creates even more demand for the installation of electric vehicle chargers.

Be ready with our range of EV-Ultra® cables, the **faster**, **neater**, and **easier** installation process.





"EV-Ultra® has been a game changer for us when installing electric vehicle charging points as it allows us to future proof all our installs and provide data/ct connections neatly without having to run a separate data cable. We only use EV-Ultra® as standard for all our installs now as we want the best for our customers."

Artisan Electrics



Technical Details

Running data and power in a single cable is a concern for many electricians, with most believing that segregation of power (Band II) and data (Band I) is always required.

It is however already common to find power and data inside one cable in many existing applications, an example is DALI networks which incorporate data within a 5 core power cable.

It is recommended that the screening of the data cable is terminated to earth.

What do the regulations say?

Voltage Band I is defined as levels of voltage which are too low to provide serious electric shocks; effectively this limits the band to extra-low voltage (ELV), including telecommunications, signalling, bell, control and alarm circuits.

Voltage Band II is defined as all voltages which are used in electrical installations not included in Band I. This means that all 230V supplies are included in Band II.

Proximity of electrical services (extract from 528.1) - Except where one of the following methods is adopted, neither a Band I nor a Band II circuit shall be contained in the same wiring system as a circuit of nominal voltage exceeding that of low voltage, and a Band I circuit shall not be contained in the same wiring system as a Band II circuit. (i) - Every cable or conductor is insulated for the highest voltage present. EV-Ultra® consists of power conductors and data cables that are rated to the same nominal voltage – therefore segregation of power and data is not required.

Proximity of communications cables (extract from 528.2) - Special considerations of electrical interference, both electromagnetic and electrostatic, may apply to telecommunication circuits, data transfer circuits and the like.

EV-Ultra® has been designed with these considerations in mind, it incorporates super screened, twisted pair data cables and is also constructed with a lay length that reduces interference. Laboratory and on-site installation tests have also been conducted and no interference or degradation of signal was recorded.



Now using
CARBONTEK®

3 CORE + 2 CORE SIGNAL CABLE

For single phase applications. Available in Tuff Sheath® and SWA

Cable Construction

Conductor: Plain Annealed Copper Class 2 Stranded to BS EN 60228

Insulation: Thermosetting XLPE Type GP8 to BS 7655-1.3

Bedding: CarbonTek®

Steel Wire Armour: Galvanised steel wire armour (where applicable)

Sheathing: CarbonTek®

Data Cable: 2 core super screened signal cable

Application

The cable is designed for use in the installation of electric vehicle charge points. The cable incorporates power conductor and a 2 core super screened signal cable encapsulated in a double sheathed design for extra protection. Whilst designed for use in electric vehicle charge points, the cable is also suitable for other installations where power and a 2 core signal cable is required. These cables are designed to be installed in air, clipped to surface, on cable tray/ladder work and embedded in concrete. The cables can be laid direct in the ground providing that suitable mechanical protection is in place.



Understanding the product codes

	Conductor Size	3 Core 	5 Core 	2 Core Signal	4 Pair CAT5 Data	Steel Wire Armour	CarbonTek®
EV-ULTRA3C4.0	4.0mm ²	✓		✓			✓
EV-ULTRA3C4.0SWA	4.0mm ²	✓		✓		✓	✓
EV-ULTRA3C6.0	6.0mm ²	✓		✓			✓
EV-ULTRA3C6.0SWA	6.0mm ²	✓		✓		✓	✓

Dimensional Details:

Product Code	Number & nominal CSA of conductors	Nominal overall diameter of bedding	Approx. overall diameter	Approx. weight
EV-ULTRA3C4.0	3 x 4.0mm ² + 2 Core Signal	11.0mm	13.6mm	265kg/km
EV-ULTRA3C4.0SWA	3 x 4.0mm ² + 2 Core Signal	11.0mm	15.0mm	480kg/km
EV-ULTRA3C6.0	3 x 6.0mm ² + 2 Core Signal	12.0mm	14.4mm	350kg/km
EV-ULTRA3C6.0SWA	3 x 6.0mm ² + 2 Core Signal	12.0mm	16.8mm	625kg/km

Electrical Properties:

	4.0mm ²	6.0mm ²
Maximum current rating (A)	45	58
Voltage drop (mV/A/m)	12	7.9

Weight and dimensional information is provided as an approximate guide only.

Current carrying capacities based on ambient temperature of 30°C and conductor operating temperature of 90°C. Refer to BS7671 for further details including grouping factors and ambient temperatures other than 30°C



CARBONTEK®

Since the introduction of EV-Ultra® we have actively engaged with installers and valued their feedback. While positive comments are great, the constructive comments were the ones we focused on with a view to further improving the product. This engagement led to the creation of CarbonTek®.

Our compound specialists started to develop a new compound which maintained all of the existing benefits of EV-Ultra®, whilst giving the product added benefits of increased flexibility and suppleness. After a lengthy research and development project CarbonTek® was created.

CarbonTek® gives the same mechanical properties as the original polymer compounds used in EV-Ultra® such as:

- ✓ High abrasion resistance
- ✓ Great impact resistance
- ✓ UV stability
- ✓ Thermal stability

However, CarbonTek® is extremely flexible and allows added benefits to be realised which include:

- ✓ Being even easier to strip and terminate
- ✓ Being even easier to route
- ✓ Being even easier to clip

We feel that CarbonTek® further improves the key benefits of EV-Ultra® and allows for even QUICKER, EASIER, AND NEATER installations.

The feedback so far:

A pleasure to install - top job!
Great improvement.
CarbonTek is the future 🙌

I couldn't believe how pliable it was!

We had a tricky cable run to do, and the Carbontek EV-Ultra worked brilliantly! Super bendy, super easy to install

Couldn't believe how flexible and easy to work the cable was. A dream to strip too 🙌

Really impressed

Great improvement guys - I just need to blitz through the old stock that I have at the wholesalers 😊



The Compound Facility at Doncaster Cables

Since 1984 we have made significant investments to ensure we can control every aspect of the manufacturing process.



All of our cables are manufactured with the installer in mind, and every effort is taken to ensure our compounds are manufactured to ease installation and give added value.



3 CORE + 4 PAIR DATA

For single phase applications. Available in Tuff Sheath® and SWA

Cable Construction

Conductor: Plain Annealed Copper Class 2 Stranded to BS EN 60228

Insulation: Thermosetting XLPE Type GP8 to BS 7655-1.3

Bedding: CarbonTek®

Steel Wire Armour: Galvanised steel wire armour (where applicable)

Sheathing: CarbonTek®

Data Cable: 4 pair super screened data cable

Application

The cable is designed for use in the installation of electric vehicle charge points. The cable incorporates power conductor and a 4 pair super screened data cable, encapsulated in a double sheathed design for extra protection. Whilst designed for use in electric vehicle charge points, the cable is also suitable for other installations where power and a 4 pair data/signal cable is required. These cables are designed to be installed in air, clipped to surface, on cable tray/ladder work and embedded in concrete. The cables can be laid direct in the ground providing that suitable mechanical protection is in place.



Understanding the product codes

	Conductor Size	3 Core 	5 Core 	2 Core Signal	4 Pair CAT5 Data	Steel Wire Armour	CarbonTek®
EV-ULTRA3C4.0CAT5	4.0mm ²	✓			✓		✓
EV-ULTRA3C4.0CAT5SWA	4.0mm ²	✓			✓	✓	✓
EV-ULTRA3C6.0CAT5	6.0mm ²	✓			✓		✓
EV-ULTRA3C6.0CAT5SWA	6.0mm ²	✓			✓	✓	✓
EV-ULTRA3C710.0CAT5	10.0mm ²	✓			✓		✓
EV-ULTRA3C710.0CAT5SWA	10.0mm ²	✓			✓	✓	✓
EV-ULTRA3C716.0CAT5	16.0mm ²	✓			✓		✓
EV-ULTRA3C716.0CAT5SWA	16.0mm ²	✓			✓	✓	✓

Dimensional Details:

Product Code	Number & nominal CSA of conductors	Nominal overall diameter of bedding	Approx. overall diameter	Approx. weight
EV-ULTRA3C4.0CAT5	3 x 4.0mm ² + Cat5e FTP	12.5mm	14.8mm	315kg/km
EV-ULTRA3C4.0CAT5SWA	3 x 4.0mm ² + Cat5e FTP	12.5mm	16.5mm	510kg/km
EV-ULTRA3C6.0CAT5	3 x 6.0mm ² + Cat5e FTP	13.6mm	16.0mm	410kg/km
EV-ULTRA3C6.0CAT5SWA	3 x 6.0mm ² + Cat5e FTP	13.6mm	18.6mm	700kg/km
EV-ULTRA3C710CAT5	3 x 10.0mm ² + Cat5e FTP	15.0mm	17.6mm	492kg/km
EV-ULTRA3C710CAT5SWA	3 x 10.0mm ² + Cat5e FTP	15.0mm	20.2mm	835kg/km
EV-ULTRA3C716CAT5	3 x 16.0mm ² + Cat5e FTP	17.4mm	20.0mm	715kg/km
EV-ULTRA3C716CAT5SWA	3 x 16.0mm ² + Cat5e FTP	17.4mm	22.5mm	1094kg/km

Electrical Properties:

	4.0mm ²	6.0mm ²	10mm ²	16mm ²
Maximum current rating (A)	45	58	80	107
Voltage drop (mV/A/m)	12	7.9	4.7	2.9

Weight and dimensional information is provided as an approximate guide only.

Current carrying capacities based on ambient temperature of 30°C and conductor operating temperature of 90°C. Refer to BS7671 for further details including grouping factors and ambient temperatures other than 30°C.

THE **EV-Ultra**[®] RANGE

	Conductor Size	3 Core 	5 Core 
EV-ULTRA3C4.0	4.0mm ²	✓	
EV-ULTRA3C4.0SWA	4.0mm ²	✓	
EV-ULTRA3C6.0	6.0mm ²	✓	
EV-ULTRA3C6.0SWA	6.0mm ²	✓	
EV-ULTRA3C4.0CAT5	4.0mm ²	✓	
EV-ULTRA3C4.0CAT5SWA	4.0mm ²	✓	
EV-ULTRA3C6.0CAT5	6.0mm ²	✓	
EV-ULTRA3C6.0CAT5SWA	6.0mm ²	✓	
EV-ULTRA3C710.0CAT5	10mm ²	✓	
EV-ULTRA3C710.0CAT5SWA	10mm ²	✓	
EV-ULTRA3C716.0CAT5	16mm ²	✓	
EV-ULTRA3C716.0CAT5SWA	16mm ²	✓	
EV-ULTRA5C6.0CAT5	6.0mm ²		✓
EV-ULTRA5C6.0CAT5SWA	6.0mm ²		✓
EV-ULTRA5C710.0CAT5	10mm ²		✓
EV-ULTRA5C710.0CAT5SWA	10mm ²		✓
EV-ULTRA5C716.0CAT5SWA	16mm ²		✓

CLEATS AND GLANDS



EV-Ultra[®] 3 Core with 4 Pair Data (CAT5)

Type	Diameter	Gland	Cleat
EV-ULTRA3C4.0CAT5	15	Compression gland to suit	6
EV-ULTRA3C6.0CAT5	16.5		7
EV-ULTRA3C710CAT5	17.5		8
EV-ULTRA3C716CAT5	20.0		9
EV-ULTRA3C4.0CAT5SWA	16.7	20	7
EV-ULTRA3C6.0CAT5SWA	19.0	20	8
EV-ULTRA3C710CAT5SWA	20.5	25	9
EV-ULTRA3C716CAT5SWA	22.5	25	9

2 Core Signal	4 Pair CAT5 Data	Steel Wire Armour	CarbonTek®
✓			✓
✓		✓	✓
✓			✓
✓		✓	✓

	✓		✓
	✓	✓	✓
	✓		✓
	✓	✓	✓
	✓		✓
	✓	✓	✓
	✓		✓
	✓	✓	✓

	✓		✓
	✓	✓	✓
	✓		✓
	✓	✓	✓
	✓		✓

EV-Ultra® 3 Core with 2 Core Signal

Type	Diameter	Gland	Cleat
EV-ULTRA3C4.0	13.6	Compression gland to suit	6
EV-ULTRA3C6.0	14.4		6
EV-ULTRA3C4.0SWA	15.0	20	6
EV-ULTRA3C6.0SWA	16.8		7

EV-Ultra® 5 Core with 4 Pair Data (CAT5)

Type	Diameter	Gland	Cleat
EV-ULTRA5C6.0CAT5	17.8	Compression gland to suit	8
EV-ULTRA5C710CAT5	19.5		8
EV-ULTRA5C6.0CAT5SWA	20.5	25	9
EV-ULTRA5C710CAT5SWA	23.4	25	10

Much more than just an EV Cable!

Power and data connectivity combined in one cable.

Hard wired data connectivity is a superior and secure alternative to using WiFi, resulting in a faster, neater and easier installation process.

Available in both PVC Tuff-Sheath and SWA variants.



Electric Vehicle charging points



CCTV column wiring



Gate access (most new video intercom systems use IP equipment, even PoE too), Cat5 version



Outbuilding wiring to enable access point and/or IP CCTV inclusion



Caravan sites, for network distribution either for access points or individual plot network



Solar/battery inverter wiring for export limitation CT



EV-ULTRA[®] **CABLE STRIPPER**

- Large handle diameter for optimum control
- Easy to operate adjusting screw
- Precise, quick and safe stripping
- Quick change of the inner blade with a bayonet fitting



Works perfectly
with our
EV-ULTRA[®]
Tuff Sheath[®]
cable range!



Suitable on cable with a diameter
of 8-27mm





5 CORE + 4 PAIR DATA

For three phase applications. Available in Tuff Sheath® and SWA

Cable Construction

Conductor: Plain Annealed Copper Class 2 Stranded to BS EN 60228

Insulation: Thermosetting XLPE Type GP8 to BS 7655-1.3

Bedding: CarbonTek®

Steel Wire Armour: Galvanised steel wire armour (where applicable)

Sheathing: CarbonTek®

Data Cable: 4 pair super screened data cable

Application

The cable is designed for use in the installation of electric vehicle charge points. The cable incorporates power conductor and a 4 pair super screened data cable. encapsulated in a double sheathed design for extra protection. Whilst designed for use in electric vehicle charge points, the cable is also suitable for other installations where power and a 4 pair data/ signal cable is required. These cables are designed to be installed in air, clipped to surface, on cable tray/ladder work and embedded in concrete. The cables can be laid direct in the ground providing that suitable mechanical protection is in place.



Understanding the product codes

	Conductor Size	3 Core 	5 Core 	2 Core Signal	4 Pair CAT5 Data	Steel Wire Armour	CarbonTek®
EV-ULTRA5C6.0CAT5	6.0mm ²		✓		✓		✓
EV-ULTRA5C6.0CAT5SWA	6.0mm ²		✓		✓	✓	✓
EV-ULTRA5C710.0CAT5	10.0mm ²		✓		✓		✓
EV-ULTRA5C710.0CAT5SWA	10.0mm ²		✓		✓	✓	✓
EV-ULTRA5C716.0CAT5SWA	16.0mm ²		✓		✓	✓	✓

Dimensional Details:

Product Code	Number & nominal CSA of conductors	Nominal overall diameter of bedding	Approx. overall diameter	Approx. weight
EV-ULTRA5C6.0CAT5	5 x 6.0mm ² + Cat5e FTP	15.5mm	17.9mm	500kg/km
EV-ULTRA5C6.0CAT5SWA	5 x 6.0mm ² + Cat5e FTP	15.5mm	20.5	836kg/km
EV-ULTRA5C710CAT5	5 x 10.0mm ² + Cat5e FTP	18.4mm	19.8mm	709kg/km
EV-ULTRA5C710CAT5SWA	5 x 10.0mm ² + Cat5e FTP	18.4mm	23.4mm	1083kg/km
EV-ULTRA5C716CAT5SWA	5 x 16.0mm ² + Cat5e FTP	21.7mm	27.7mm	1770kg/km

Electrical Properties:

	6.0mm ²	10mm ²	16mm ²
Maximum current rating (A)	52	71	91
Voltage drop (mV/A/m)	6.8	4.0	2.5



**We are proud that EV-Ultra® cables
are manufactured in the UK
and are BASEC approved**



BASEC CAD 045 Certificate gained in October 2021



Case Study

Manufacturer: Doncaster Cables

Certificate of Assessed Design for EV-Ultra cable

As the largest British owned manufacturer of general wiring products in the United Kingdom, Doncaster Cables has a wealth of experience in the cable market. The brand has grown extensively since launching in 1984 and is internationally recognised throughout the industry.

The company produces a comprehensive range of cable products within their extensive facilities, based in northern England. Providing such a wide offering helps to meet demand for a varied range of industries. Product ranges include general wiring polyvinyl chloride and low smoke halogen free variants, fire performance cables, control cables, data communications, electric vehicle (EV) cables, coaxial and security cables, as well as a variety of cable accessories.

Doncaster Cables supply their products to a network of Electrical Wholesalers throughout the UK, in addition to exporting products to countries overseas. High quality products are of the upmost importance to the business and are integral to driving the brand forward. Aaron Walstow company director comments:

"We pride ourselves on manufacturing cables in Great Britain, to meet high levels of quality and safety. Our experienced staff and comprehensive facilities, combined with third party approvals, provides us with a competitive advantage proving expertise and verification in the market."

Having worked with BASEC as their preferred cable testing and certification provider for over 30 years, during this period Doncaster Cables has gained accreditations for a variety of product and systems approvals. Over 40 construction products regulation, CPR certificates have also been awarded to evidence quality and compliance. This is the most comprehensive range of BASEC approvals of any UK cable manufacturer.

An innovative combination

The upturn in the use of electric vehicles and the need for widespread charging infrastructure, led Doncaster Cables to notice a gap in the market for a cable product that combines both power and data supply, to support smart charging technology. Named EV-Ultra®, the cable is available in a wide range of variants, of which the 3 core and 5 core are the most popular. The data cable element of the product is either a 2 core or category 5 enhanced cable, both with superior construction qualities including twisted pairs and 'super-screens'. Availability includes high quality heat resistant, thermally stable and impact resistant polyvinyl chloride, and steel wire armoured (SWA) alternatives.

Aaron Walstow comments "The positive feedback from the BASEC Data Laboratory manager where they explained that 'the data properties of the cable had exceeded all expectations' is a true credit to the hard work of our Research and Development team, demonstrating that the BASEC accreditation process has added value to the product for the installer to demonstrate quality and conformity."



Doncaster **Cables**



This innovative product, which was in development for an 18 month period, provides a neater, quicker install, saving valuable time for the installer. Doncaster Cables has received high levels of interest in the product from the electric vehicle and energy industry, with collaboration with the likes of Hypervolt, Myenergi and SYNC EV already in progress, indicating high product demand.

Collaboration with other leading innovative companies allowed the development of CarbonTek® technology to be born. The CarbonTek® compounds developed by Doncaster Cables now give a level of impact protection, abrasion resistance, toughness and durability that surpasses the requirements of typical British Standard compounds. With the key benefit to end users being that these compounds offer a higher level of flexibility and ease of handling. Aaron Walstow explains that "The success of the CarbonTek® compound development was highlighted during review meetings with one of our most innovative development partners, and when their review includes the phrase "this is a game changer", you just know that you're developing something special that will help the installer".

Certificate of Assessed Design

An initial challenge that Doncaster Cables faced when developing and launching the product was the lack of an existing standard that the cable could be qualified against, due to its unique combination of delivering both EV charging power and data within the construction. Therefore, installers would have been unable to evidence cable compliance once installed. This factor drove the decision to engage BASEC for a Certificate of Assessed Design, CAD, an ideal solution to ensuring the product's specification meets necessary safety and performance requirements aligned with the cable industry level quality could be achieved.

CADs are suitable for unique variant products, where no specific national or international standards exist to verify a cable's design. BASEC works closely with manufacturers to undertake an appropriate testing programme, with both initial and ongoing routine testing, to evidence the product's characteristics. The assessed design approval also incorporates ongoing surveillance testing to ensure consistent levels of quality and safety are maintained over the longer term.

Providing peace of mind

Gaining BASEC approval for the EV-Ultra® product provides installers, as well as other stakeholders within the supply chain, with peace of mind that cable quality has been verified by a specialist third party approval. As part of the process to gaining approval, samples are selected independently by an expert and tested within an external laboratory, separate to the manufacturer's facilities. Product approval permits the use of the BASEC mark to be printed on the cable as a visual statement of compliance.

Aaron Walstow comments, "As a company, providing our customers with the highest levels of conformity to support the safe installation of cabling into their projects is a top priority. Gaining the CAD product approval from BASEC helps to provide an easier sign off process for installers and end users of the EV-Ultra® cabling, as it enables them to prove that the cable has been thoroughly performance tested. To demonstrate compliance customers can also reference a BA specific number in relation to the CAD."

To view the live certifications that Doncaster Cables has been issued with approval by BASEC, or to enquire about gaining a Certificate of Assessed Design, please visit www.basec.org.uk

When quality matters.



Contact us

British Approvals Service for Cables
Presley House
Presley Way
Crownhill
Milton Keynes
MK8 0ES, UK

+44 (0)1908 267300
mail@basec.org.uk

www.basec.org.uk

Certificate of Assessed Design

Granted to:
Doncaster Cables

Millfields Industrial Estate
Arksey Lane, Bentley
Doncaster
Yorkshire
DN5 0SJ
United Kingdom

hereinafter called the Holder

This is to certify that the design of the product known as:

EV-Ultra 600/1000V Cable

Range:
3, 4 & 5 Core - 4 sqmm to 16 sqmm

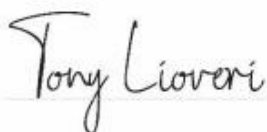
Insulation GP8

As defined by:
Doncaster Cables specification for EV-Ultra Cable Issue 1

In the opinion of the British Approvals Service for Cables, is capable of affording a degree of safety not less than that obtained by compliance with the IET Wiring Regulations (BS 7671:2018), if selected and installed in accordance with the conditions contained in the Schedule attached hereto, which forms an integral part of the certificate.

Original issue date:	07/10/2021
Current issue date:	07/10/2021

Signed for and on behalf of the British Approvals
Service for Cables



Date: 07/10/2021

Contact BASEC to verify validity.

TESTIMONIALS

Don't just take our word for it, hear what our customers have to say about EV-Ultra®...

Never used anything else in the last 18 months, would struggle to do our job without it.

Essex Vehicle Charging

.....

EV-Ultra® cable makes installations much neater than running a separate cat5e cable, very innovative solution indeed. And being from a trusted brand like Doncaster Cables, you can't go wrong at all.

Cablesmith Electrical Services

.....

The best cable around for EV charger installations. Not just neater as an all in one cable, but more efficient with time saved on installs.

NSN Electrical

.....

I have used this cable a few times now and it's a gamechanger! Makes the job 100% neater! Saves you running 2 separate cables. It's easy to work with as it's Doncaster Cables which in my opinion is the best cable brand out there!

Infinity Electrical Wales

.....

Always use EV-Ultra® on my EVCP installs, great product, easy to use and looks fantastic. Nice one.

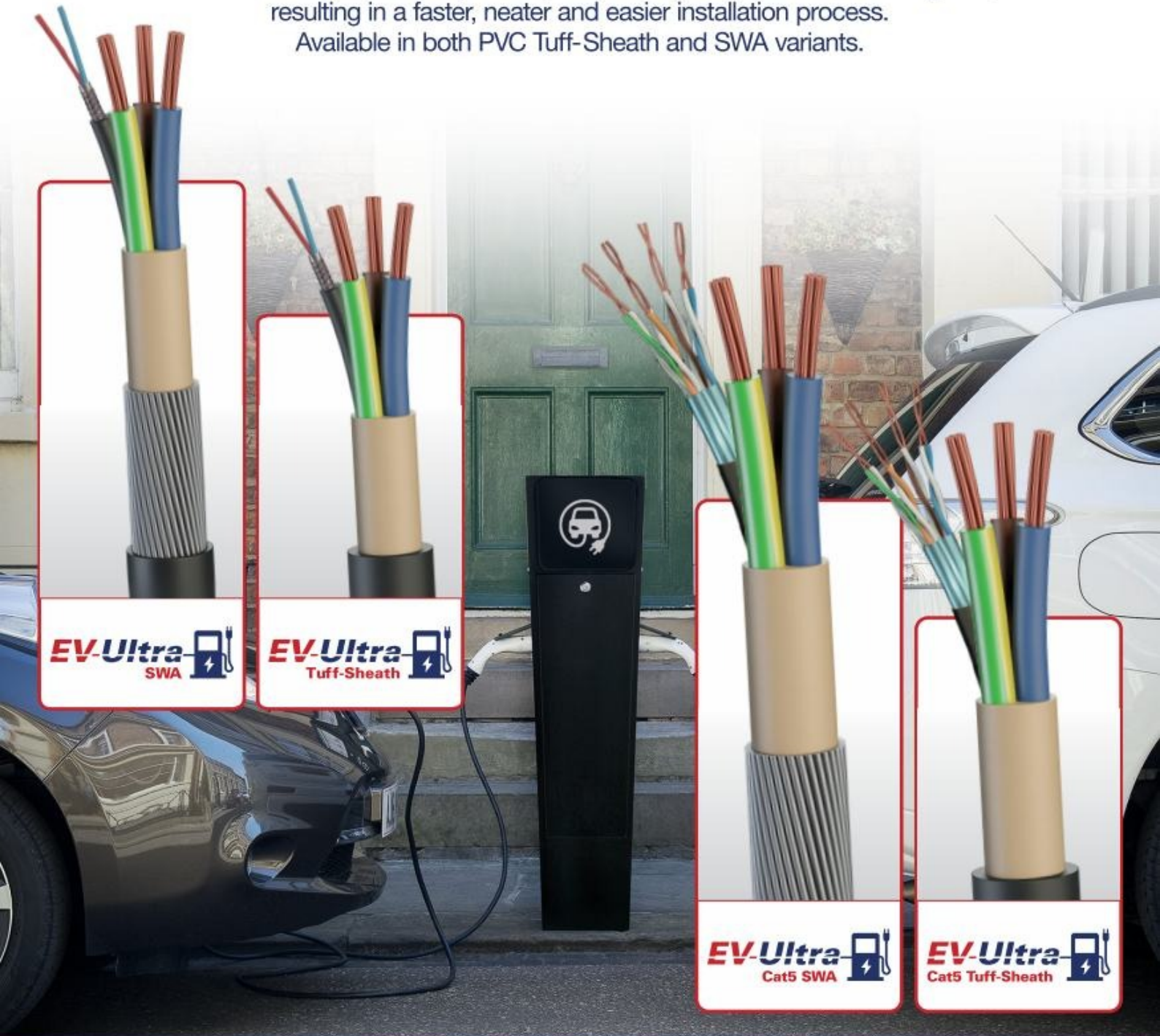
Ev-olved Electrical

It's much easier to use and install. Looks much tidier on the finished job.

B&R Electrics

Power and data connectivity combined in one cable

Hard wired data connectivity is a superior and secure alternative to using WiFi, resulting in a faster, neater and easier installation process.
Available in both PVC Tuff-Sheath and SWA variants.





The British Cable Company You Can Trust



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e: sales@doncastercables.com

www.ev-ultra.com