

nVent ERICO Cu-Bond Round Conductor

Power Utilities

For decades, nVent ERICO has provided the market with high quality copper-bonded ground rods. nVent ERICO has taken that same concept in ground rods and made this into a revolutionary new grounding conductor. The core of the nVent ERICO Cu-Bond Round Conductor is a low carbon steel grade for improved flexibility in the field. The steel core is plated with nickel then electro-plated with a coating of copper. This electro-plating process helps ensure a long-lasting molecular bond between the copper layer and the steel.

The steel core of the conductor provides theft-deterrent benefits, making the conductor difficult to cut with hand tools. With this steel core, nVent ERICO Cu-Bond Round Conductor is a cost-effective alternative to 100% copper conductor. The copper surface of the conductor provides high conductivity and corrosion resistance properties.

Above grade, the unique properties of nVent ERICO Cu-Bond Round Conductor make it ideal for both horizontal and vertical placement. The conductor is well-suited as a lightning protection conductor when applied in accordance with the IEC 62305-3 Edition 2.0 standard.

In the utility industry, the product can be used as a distribution down-lead conductor or as part of a bonding kit for substation fences or equipment ground risers back to the grid. In telecom applications, the product can be used to connect an equipment ground to the ground grid, as a riser (down-lead) for towers, or as a grounding conductor for datacenter mesh bonding. They are also well suited for rail applications such as trackside bonding conductors and stray current conductors, grounding kits for trackside equipment, electrical traction power, as well as in substation, wayside shelters, and communication antenna equipment.

Below grade, nVent ERICO Cu-Bond Round Conductors are ideal as earthing and bonding conductors where copper theft may occur. They may be used as a buried ground grid conductor or electrode for wireless telecom towers, power distribution and transmission grounding in utility substations, large scale ground mount solar farms, petrochemical and mining infrastructure in industrial facilities,



and railway applications. The conductor also can be used as an interconnecting grounding conductor between wind towers or as a grounding grid at the base of a wind tower.

CERTIFICATIONS



FONCTIONS

Theft-deterrent; steel core is hard to cut with hand tools

Cost-effective; copper bonded to a steel core minimizes the amount of copper in the cable

Superior corrosion resistance; application life of typically 30-40 years in most soil conditions

Copper-bonded coating will not crack or tear when the conductor is bent

High resistance to corrosion and provides a low-resistance path to ground

nVent ERICO Cu-Bond Round Conductor is marked every meter (3.28') for easy measurement in the field

Meets the requirements of IEC® 62305-3 Edition 2 and IEC/EN 62561-2 for lightning protection applications

nVent ERICO Cu-Bond Round Conductors are UL certified to IEC® 62561-2

SPÉCIFICATIONS

Table 1/1

Référence catalogue	Épaisseur du placage	Équivalence de capacité de fusion	Code de conducteur Cadweld nVent ERICO	Poids unitaire	Détails de la certification
CBSC8	254 µm	25 mm ²	T1	39 kg	CEI® 62561-2

INFORMATIONS PRODUIT COMPLÉMENTAIRES

Resistance per unit length measurements made in mΩ/m, CBSC compared with respect to AWG/Metric.

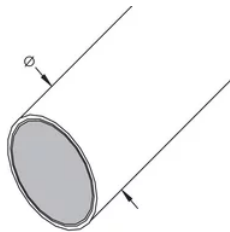
The IEEE® 837 standard (Annex C) provides a method of calculating the fusing current for conductors. This chart is a reference of the calculations for copper-bonded steel conductor according to the IEEE 837 standard. This information is for reference only.

Comparaison de la taille physique du conducteur		
Taille de conducteur	Diamètre approximatif	Coupe transversale
25 mm ²	6,76 mm	-
35 mm	7,65 mm	-
CBSC8	8,00 mm	50,27 mm ²
50 mm ²	8,89 mm	-
CBSC10	10,00 mm	78,52 mm ²
70 mm ²	10,69 mm	-
95 mm ²	12,47 mm	-
CBSC13	13,20 mm	138,07 mm ²
CBSC14	14,20 mm	158,90 mm ²
120 mm ²	14,22 mm	-
CBSC16	15,70 mm	199,84 mm ²
150 mm ²	15,75 mm	-
185 mm ²	17,65 mm	-
CBSC18	17,70 mm	243,27 mm ²

Comparaison de la conductivité				
Numéro code produit	AWG (Ω/km)	Résistance CBSC par Comparaison de la longueur	mm ² (Ω/km)	Résistance CBSC par Comparaison de la longueur
CBSC18	1/0 AWG	118,52 %	50 mm ²	110,82 %
	2 AWG	74,54 %	35 mm	77,57 %
CBSC16	2 AWG	102,20 %	35 mm	106,36 %
	4 AWG	64,27 %	25 mm ²	75,97 %
CBSC14	2 AWG	137,78 %	25 mm ²	102,42 %
	4 AWG	86,65 %	16 mm ²	65,55 %
CBSC13	2 AWG	134,46 %	25 mm ²	99,95 %
	4 AWG	84,56 %	16 mm ²	63,97 %
CBSC10	4 AWG	132,25 %	16 mm ²	100,05 %
	6 AWG	83,17 %	10 mm ²	62,53 %
CBSC8	6 AWG	107,85 %	16 mm ²	129,73 %
	8 AWG	67,83 %	10 mm ²	81,08 %

Intensité du courant de fusion I _{rms} (kA) - IEEE® 837 Annexe C							
Type de conducteur Acier cuivré, noyau acier, tige a		CBSC8	CBSC10	CBSC13	CBSC14	CBSC16	CBSC18
Coupe transversale du conducteur en mm ²	A	50.265	78.52	138.07	158.903	199.84	243.27
Température initiale du conducteur en °C	T _a	40	40	40	40	40	40
Temps de débit du courant en secondes	t _c	2	2	2	2	2	2
Température maximum autorisée en °C	T _m	1084	1084	1084	1084	1084	1084
Coefficient de résistivité thermique à la temp. de réf. Tr	ar	0.00378	0.00378	0.00378	0.00378	0.00378	0.00378
Résistivité du conducteur de terre à la temp. de réf. Tr en mΩ-cm	rr	8.621	8.621	8.621	8.621	8.621	8.621
1/a ₀ ou (1/ar) – Tr en °C	K ₀	245	245	245	245	245	245
Facteur de capacité thermique en Joules/cm ³ / °C	TCAP	3.846	3.846	3.846	3.846	3.846	3.846
Conductivité des matériaux	%	24.5	20.4	18.8	15.9	16.3	17.7
Calcul courant de fusion	β	84.73	84.73	84.73	84.73	84.73	84.73
	I	4.79	7.48	13.16	15.15	19.05	23.19
	I ₉₀ %	4.31	6.74	11.84	13.63	17.14	20.87
	I ₁₈₀ %	3.83	5.99	10.53	12.12	15.24	18.55

DIAGRAMMES



AVERTISSEMENT

Les produits nVent doivent être installés et utilisés uniquement comme indiqué dans les feuilles d'instructions et les documents de formation de nVent. Les feuilles d'instructions sont disponibles sur www.nvent.com et auprès de votre représentant du service client nVent. Une installation incorrecte, une mauvaise utilisation, une mauvaise application ou tout autre défaut de respect total des instructions et des avertissements de nVent peut entraîner une défaillance du produit, des dommages matériels, des blessures corporelles graves et la mort et/ou annuler votre garantie.

⚠ WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



Notre gamme complète de marques:

CADDY ERICO HOFFMAN ILSCO SCHROFF TRACHTE