



DESCRIPTION

- Technical designation REF3Z1-K(S) for multipolar cables and REFA3Z1-K(S) for unipolar cables.
- Construction Standard: IEC 60502-1, UNE 21123-4, ET 03.354.019.6.
- Low Voltage Directive (LVD) compliant: 2014/35/UE
- Construction Products Regulation (CPR) - (EU) N° 305/2011:
 - ✓ **Reaction to fire Dca-s2-d2-a2** brown jacket.
- DoP Number: **D002-ENG-REF3Z1K**
- DoP Number: **D004-ENG-REFA3Z1K**
- RoHS compliant.
- **Power railway indoor infrastructures.**

Safety Cable (S), halogen-free, flame retardant, armoured with corrugated tinned steel tape, used for the power supply in railway facilities not susceptible to accumulation of smoke and toxic products in case of fire and that do not require special protection.

TECHNICAL CHARACTERISTICS

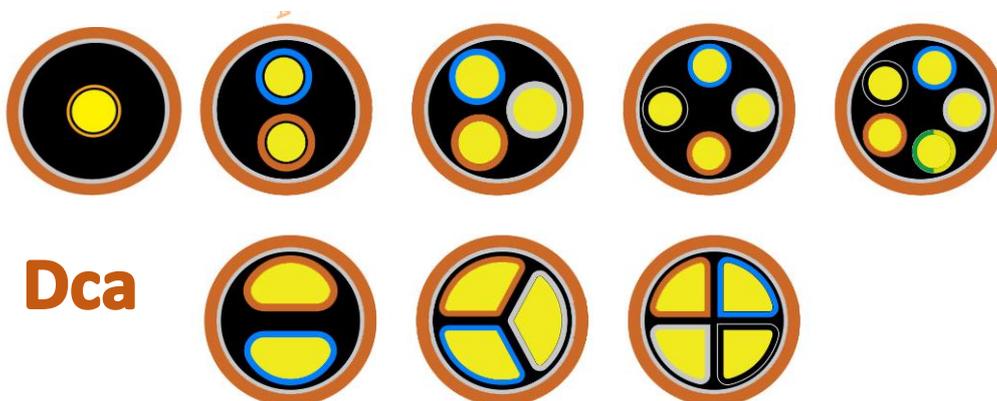
Conductor	Flexible copper conductor (Class V) according to UNE-EN 60288 and IEC 60228 Circular sections $\leq 35\text{mm}^2$ and sectorial for upper sections (except unipolar cables).
Insulation	Cross-linked Polyethylene (XLPE), type DIX 3 according UNE 21123, UNE HD 603 and XLPE according IEC 60502.
Inner sheath	Polyethylene
Armour	Corrugated tinned steel tape (F3 - multipolar) or aluminum (FA3 – unipolar).
Outer sheath	Thermoplastic polyolefin sheath DM22 type according to UNE-HD-620-1.
Nominal Voltage	0,6/1 kV C.A
Voltage Test	3.500 V C.A.
Maximum conductor temperatures	Normal operation 90°C Short circuit (5sec) 250°C

OTHER CHARACTERISTICS

- Non-flame propagation according to EN 60332-1-2, IEC 60332-1-2.
- Low halogen content according to EN 60754-2, EN 60754-1, IEC 60754-2, IEC 60754-1.
- Low corrosive gas emission according to EN 60754-2, IEC 60754-2.
- Low smoke emission according to EN 61034-2, IEC 61034-2.
- **Fire reaction (CPR) Dca-s2. d2, a2.**
- UV resistance (1 cycle) according to UNE 211605.
- Water absorption resistance.
- High cold resistance.
- Impact and rodent resistance.
- **Flexible cable (F3).**



INSULATION COLORS					
Conductors	Black	Brown	Grey	Blue	G/Y
1		●			
2		●		●	
3	●	●	●		
3G		●		●	●
4	●	●	●	●	
4G	●	●	●		●
5G	●	●	●	●	●



SECTIONS

Section (mm ²)	Resistance at 20 °C (Ohm/km)	Nominal outer diameter (mm)	Weight (kg/m)	CPR
1x16	1,21	15	0,282	Dca-s2-d2-a2
1x25	0,78	16,8	0,381	Dca-s2-d2-a2
1x35	0,554	17,9	0,478	Dca-s2-d2-a2
1x50	0,386	19,5	0,631	Dca-s2-d2-a2
1x70	0,272	21,4	0,841	Dca-s2-d2-a2
1x95	0,206	22,8	1,048	Dca-s2-d2-a2
1x120	0,161	25,1	1,292	Dca-s2-d2-a2
1x150	0,129	27,7	1,591	Dca-s2-d2-a2
1x185	0,106	30,3	1,931	Dca-s2-d2-a2
1x240	0,0801	32,8	2,473	Dca-s2-d2-a2
1x300	0,0641	35,7	3,061	Dca-s2-d2-a2
2x1,5	13,3	14,4	0,214	Dca-s2-d2-a2
2x2,5	7,98	15,4	0,249	Dca-s2-d2-a2
2x4	4,95	16,4	0,305	Dca-s2-d2-a2
2x6	3,3	17,6	0,361	Dca-s2-d2-a2
2x10	1,91	19,4	0,475	Dca-s2-d2-a2
2x16	1,21	21,6	0,632	Dca-s2-d2-a2
2x25	0,78	25,2	0,883	Dca-s2-d2-a2
2x35	0,554	27,4	1,121	Dca-s2-d2-a2
2x50	0,386	27	1,253	Dca-s2-d2-a2
2x70	0,272	30,4	1,763	Dca-s2-d2-a2
2x95	0,206	32,8	2,128	Dca-s2-d2-a2
2x120	0,161	36,8	2,700	Dca-s2-d2-a2
2x150	0,129	41,8	3,343	Dca-s2-d2-a2
2x185	0,106	46,2	4,038	Dca-s2-d2-a2
2x240	0,0801	50,3	5,150	Dca-s2-d2-a2
2x300	0,0641	55,2	6,376	Dca-s2-d2-a2
3x1,5	13,3	14,9	0,239	Dca-s2-d2-a2
3x2,5	7,98	15,9	0,284	Dca-s2-d2-a2
3x4	4,95	17	0,346	Dca-s2-d2-a2
3x6	3,3	18,3	0,425	Dca-s2-d2-a2
3x10	1,91	20,2	0,576	Dca-s2-d2-a2
3x16	1,21	22,6	0,773	Dca-s2-d2-a2
3x25	0,78	26,5	1,105	Dca-s2-d2-a2
3x35	0,554	29	1,429	Dca-s2-d2-a2
3x50	0,386	30,7	1,754	Dca-s2-d2-a2
3x70	0,272	34,9	2,433	Dca-s2-d2-a2
3x95	0,206	37,9	3,054	Dca-s2-d2-a2
3x120	0,161	43,1	3,923	Dca-s2-d2-a2
3x150	0,129	48,7	4,833	Dca-s2-d2-a2
3x185	0,106	54,1	5,868	Dca-s2-d2-a2
3x240	0,0801	59,3	7,253	Dca-s2-d2-a2

Section (mm ²)	Resistance at 20 °C (Ohm/km)	Nominal outer diameter (mm)	Weight (kg/m)	CPR
4x1,5	13,3	15,6	0,264	Dca-s2-d2-a2
4x2,5	7,98	16,8	0,326	Dca-s2-d2-a2
4x4	4,95	18	0,402	Dca-s2-d2-a2
4x6	3,3	19,5	0,495	Dca-s2-d2-a2
4x10	1,91	21,6	0,691	Dca-s2-d2-a2
4x16	1,21	24,3	0,947	Dca-s2-d2-a2
4x25	0,78	28,8	1,366	Dca-s2-d2-a2
4x35	0,554	31,7	1,787	Dca-s2-d2-a2
4x50	0,386	30,7	2,206	Dca-s2-d2-a2
4x70	0,272	34,9	3,066	Dca-s2-d2-a2
4x95	0,206	43,4	4,010	Dca-s2-d2-a2
4x120	0,161	49	5,120	Dca-s2-d2-a2
4x150	0,129	55,8	6,355	Dca-s2-d2-a2
5x1,5	13,3	16,5	0,304	Dca-s2-d2-a2
5x2,5	7,98	17,8	0,381	Dca-s2-d2-a2
5x4	4,95	19,2	0,467	Dca-s2-d2-a2
5x6	3,3	20,8	0,546	Dca-s2-d2-a2
5x10	1,91	23,2	0,836	Dca-s2-d2-a2
5x16	1,21	26,2	1,156	Dca-s2-d2-a2
5x25	0,78	31,4	1,705	Dca-s2-d2-a2
5x35	0,554	34,6	2,235	Dca-s2-d2-a2
5x50	0,386	39,1	3,052	Dca-s2-d2-a2
5x70	0,272	45,1	4,245	Dca-s2-d2-a2
5x95	0,206	49	5,366	Dca-s2-d2-a2
5x120	0,161	56,1	6,811	Dca-s2-d2-a2

**The values of the outer diameters are approximate, always within production tolerance. For more information, please contact us.*

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