

power in wire and cables



KBE SOLAR DB+



★ H1Z2Z2-K / EN 50618

★ IEC 131 / IEC 62930

★ 2 PfG 1169/10.19

1.500 V_{DC} / 1.800 V_{DC} max.

stabilità UV / UV-stability

interrabile / direct burial

resistenza all'acqua superiore /
higher water resistance

classe di infiammabilità D_{ca}
secondo CPR / flammability
class D_{ca} acc. CPR



MADE IN GERMANY

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KBE Elektrotechnik GmbH produce cavi e conduttori per il settore automotive e l'industria degli elettrodomestici ed è uno dei leader internazionali nella fornitura di cavi solari con una potenza installata di 70 GW.

Nella versione migliorata del nostro KBE Solar DB+ abbiamo tenuto conto del drastico aumento della complessità dei requisiti verificatosi negli ultimi anni. Per questo il KBE Solar DB+ è il primo cavo solare con tripla certificazione: è certificato dal TÜV Renania secondo la norma europea sui cavi solari EN 50618, la norma internazionale IEC 62930 e lo standard di prova TÜV Renania 2 PfG 1169/10.19.

Inoltre, il cavo solare KBE Solar DB+ presenta una lunga serie di vantaggi rispetto ai cavi solari tradizionali:

- Certificazione secondo EN 50618 (H1Z2Z2-K)
- Certificazione secondo IEC 62930 (62930 IEC 131)
- Certificazione secondo 2 PfG 1169/10.19 (PV 1500-K)
- Progettato per 1.500 VDC (max. 1.800 VDC)
- Marcatura metrica progressiva
- Possibilità di interrimento grazie ai materiali isolanti pregiati
- Resistenza ai raggi UV superiore
- Resistenza all'acqua superiore
- Resistenza di isolamento superiore
- Stabilità meccanica superiore
- Classe di infiammabilità Dca secondo CPR
- Ottimizzato per impianti fotovoltaici flottanti (FPV)

Oltre a condizioni competitive, KBE vi offre:

- "Made in Germany" con produzione a Berlino
- Consegna da stock, tempi di consegna rapidi
- Consegna diretta in tutto il mondo a costi convenienti
- Alta qualità e lunga durata (25 anni secondo EN 50618)
- Grande flessibilità e capacità di piegatura
- Compatibilità con tutti i comuni connettori
- Colori: nero, rosso, blu
- Confezionamento: anelli da 100 m, bobine da 500 m, bobine da 1000 m

KBE Elektrotechnik GmbH is manufacturer for wires and cables for the automotive and household appliance industry as well as one of the leading international suppliers of solar cables with 70 GW installed capacity.

The advanced KBE Solar DB+ features the latest, significantly increased, technical requirements for solar cables. As a consequence KBE Solar DB+ is the first triple certified solar cable, which is TÜV Rheinland certified according to the European standard for solar cables EN 50618 and the international standard IEC 62930 as well as the new TÜV Rheinland test standard 2 PfG 1169/10.19.

KBE Solar DB+ provides a number of additional advantages in comparison to conventional solar cables:

- *certification acc. to EN 50618 (H1Z2Z2-K)*
- *certification acc. to IEC 62930 (62930 IEC 131)*
- *certification acc. to 2 PfG 1169/10.19 (PV 1500-K)*
- *Voltage rating 1.500 V_{DC} (max. 1.800 V_{DC})*
- *Consecutive meter marking*
- *Direct burial due to high quality insulation materials*
- *Higher UV-stability*
- *Higher water resistance*
- *Higher insulation resistance*
- *Higher mechanical stability*
- *flammability class D_{ca} acc. CPR*
- *optimized for floating PV systems (FPV)*

In addition to competitive conditions KBE offers:

- *"Made in Germany" with production in Berlin, Germany*
- *Delivery from stock, short lead time*
- *Worldwide deliveries at favourable terms*
- *High quality and long life time (25 years acc. to EN 50618)*
- *High flexibility and bending capability*
- *Compatibility to all common connectors*
- *Colors: black, red, blue*
- *Packaging: 100m rings, 500m spools, 1.000m spools*



KBE Solar DB+ Scheda tecnica / Technical Data Sheet

Ultimo aggiornamento: 01/08/2020 / Stand: 01.08.2020

		Profilo dei parametri - KBE Solar DB+	Requirement Profile - KBE Solar DB+
	Designazione / Product name	KBE Solar DB+	KBE Solar DB+
	Sigla/codice del cavo / Code designation	H1Z2Z2-K / 62930 IEC 131 / PV 1500-K	H1Z2Z2-K / 62930 IEC 131 / PV 1500-K
	Sezioni disponibili / Cross selections available	4,0 mm ² - 10 mm ²	4,0 mm ² - 10 mm ²
	Norme / Approvazioni / Standard / Approbations	DIN EN 50618; certificazione TÜV n° R60147048; IEC 62930 2 PFG 1169/10.19	DIN EN 50618; TÜV Rheinland Certificate-No. R60147048; IEC 62930 2 PFG 1169/10.19
		Informazioni generali	General Information
	Conduttore / Conductor	E-Cu stagnato secondo IEC 60228 Classe 5	E-Cu tinned acc. IEC 60228 Class 5
	Isolamento / Insulation	Poliolefina speciale reticolata	Crosslinked special Polyolefin
	Guaina / Sheathing	Poliolefina speciale reticolata	Crosslinked special Polyolefin
	Stampa / Printing	KBE SOLAR DB+ X,XX mm ² H1Z2Z2-K 62930 IEC 131 PV 1500-K HALOGEN FREE LOW SMOKE R60147048 MADE IN GERMANY CE EAC	KBE SOLAR DB+ X,XX mm ² H1Z2Z2-K 62930 IEC 131 PV 1500-K HALOGEN FREE LOW SMOKE R60147048 MADE IN GERMANY CE EAC
	Distanza tra stampe / Continuity of marks	≤ 550 mm	≤ 550 mm
	Colore guaina / Sheat colour	Rosso, blu, nero (uso di colori con elevatissima fotostabilità (BWS 8) secondo ISO 4892)	red, blue, black (Usage of colour with very high lighth fastness (BWS 8) according to ISO 4892)
		Durata di utilizzo prevista / Expected period of use	25 years
		Parametri elettrici	Electrical Specifications
	Tensione nominale / Rated Voltage U ₀ /U	1,0 / 1,0 kV _{AC} 1,5 / 1,5 kV _{DC}	1,0/1,0 kV _{AC} 1,5/ 1,5 kV _{DC}
	Tensione di servizio massima consentita / Max. permissible operating voltage	1,2 / 1,2 kV _{AC} 1,8 / 1,8 kV _{DC} (conduttore-conduttore, conduttore-terra)	1,2/ 1,2 kV _{AC} 1,8/ 1,8 kV _{DC} (conductor-conductor, conductor-ground)
	Portata di corrente / Current carrying capacity	conforme a EN 50618, tabella A-3	acc. to EN 50618, table A-3
	Resistenza del conduttore / Resistance of the conductor	EN 50395 parte 5 conforme a EN 50618, tabella 2	EN 50395 clause 5 acc. to EN 50618, table 2
	Prova di tensione AC / DC nell'intero cavo / Voltage test on the complete cable with AC or DC	EN 50395 parte 6 (6,5 kV _{AC} o 15 kV _{DC} ; 5 minuti)	EN 50395 clause 6 (6,5 kV _{AC} or 15 kV _{DC} ; 5 min)
	Resistenza superficiale / Surface resistance	EN 50395 parte 11	EN 50395 clause 11
	Resistenza di isolamento / Insulation resistance	EN 50395 parte 8.1 esecuzione a 20 °C e 90 °C in acqua, risultati conformi a EN 50618, tabella 1 2 PFG 1169/10.19 esecuzione a 20 °C e 90 °C in acqua risultati conformi a 2 PFG 1169/10.19 minimo: 1050 MΩ*km @ 20 °C 1,05MΩ*km @ 90 °C	EN 50395 clause 8.1 performed at 20 °C & 90 °C in water results acc. to EN 50618, table 1 2 PFG 1169/10.19 performed at 20 °C & 90 °C in water results acc. to 2 PFG 1169/10.19 at minimum: 1050 MΩ*km @ 20 °C 1,05MΩ*km @ 90 °C
	Spark test / Spark test	EN 62230, Appendice A	EN 62230, Annex A
		Resistenza alla tensione continua / Long term resistance of insulation to DC	EN 50395 parte 9 (10 giorni, 85 °C in NaCl 3%, 1,8 kV _{DC})
			(10 days, 85 °C in NaCl 3 %, 1,8 kV _{DC})
		Parametri meccanici	Mechanical Specifications
	Caratteristiche prima dell'invecchiamento / Properties before ageing	EN 60811-1-1; EN 60811-1-2 (carico di rottura dell'isolamento ≥ 8,0 N/mm ² carico di rottura della guaina ≥ 8,0 N/mm ² allungamento a rottura ≥ 125%)	EN 60811-1-1; EN 60811-1-2 (tensile strength insulation ≥ 8,0 N/mm ² tensile strength jacket ≥ 8,0 N/mm ² elongation at break ≥ 125 %)
	Prova di dilatazione termica / Hot Set test	EN 60811-2-1 (200 °C; 15 min. sotto carico; carico 20 N/cm ²)	EN 60811-2-1 (200 °C; 15 min. under load; 20 N/cm ² stress)
	Raggio di curvatura / Bending radius	≥ 4 x diametro esterno	≥ 4 x outer diameter
	Prova di penetrazione dinamica / Dynamic penetration test	conforme a EN 50618 - Appendice D	acc. to EN 50618 - Annex D
		Parametri termici	Thermal Specifications
	Temperatura ambiente in servizio / Ambient temperature in operation	da -40 °C a +90 °C	-40 °C to +90 °C
	Minima temperatura ambiente ammessa per l'installazione / Min. ambient temperature for installation	-25 °C	-25 °C
	Minima temperatura ambiente ammessa / Min. allowable ambient temperature	-40 °C	-40 °C
	Temperatura massima nel conduttore / Max. temperature at conductor	120 °C, basata su EN 60216-1 (20.000 h; 50% di allungamento residuo)	120 °C, based on EN 60216-1 (20.000 h; 50 % residual elongation)
	Temperatura di corto circuito / Short-circuit temperature	+250 °C (nel conduttore max. 5 sec.)	+250 °C (max. 5 sec on conductor)
	Test di calore umido / Damp heat test	EN 60068-2-78 (1.000h a 90 °C e umidità dell'aria 85%)	EN 60068-2-78 (1.000h at 90 °C and 85 % relative humidity)
	Prova di ritiro / Shrinkage test	EN 60811-503 (120 °C, 1h, ritiro <2,0%)	EN 60811-503 (120°C, 1h, shrinkage <2,0%)
	Prova di piegatura a freddo / Cold bending test	EN 60811-504 (-40 °C, precondizionamento: 16 h)	EN 60811-504 (-40 °C, duration of conditioning: 16 h)
	Test di allungamento a freddo / Cold elongation test	DIN EN 60811-505 (-40 ± 2 °C, precondizionamento: 16 h)	DIN EN 60811-505 (-40 °C ± 2 °C, duration of conditioning: 16 h)
	Test di impatto a freddo / Cold impact test	EN 60811-506 ed EN 50618, Appendice C (-40 °C; massa cadente 1.000 g)	EN 60811-506 and EN 50618, Annex C (-40 °C; mass of hammer 1.000 g)

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		Parametri di sicurezza specifici	specifications regarding safety
BauPVO Dca	Regolamento Prodotti da Costruzione (CPR) / Construction Product Regulation (CPR)	Classe D _{ca} in conformità ad EN 50575:2014	class D _{ca} in accordance with EN 50575:2014
	Resistenza agli acidi e agli alcali / Resistance against acid and alkaline solution	EN 60811-404 7 giorni; 23 °C (acido N-ossalico, N-idrossido di sodio)	EN 60811-404 7 days; 23 °C (N-Oxalic-acid; N-Sodium hydroxide solution)
	Test della resistenza all'ozono dell'intero cavo / Ozone resistance on completed cable	EN 50396 parte 8.1.3, metodo B	EN 50396 clause 8.1.3, method B
	Resistenza ad agenti atmosferici/raggi UV sulla guaina / Weathering/ UV-resistance on sheath	conforme ad EN 50618, Appendice E EN 50289-4-17, metodo A (720h; 60 °C ± 3 °C; umidità dell'aria 50 ± 5%) conforme a 2 PFG 1169/10.19 con test di 2.000h e quindi molto superiore alle 720h previste dalla EN 50618	meets EN 50618, Annex E EN 50289-4-17, method A (720 h; 60 °C ± 3 °C; 50 ± 5 % relative humidity) meets 2 PFG 1169/10.19 test with 2.000h and exceeds significantly the test of 720h acc. EN 50618
	Test di propagazione verticale della fiamma sull'intero cavo / Test for vertical flame propagation on complete cable	EN 60332-1-2	EN 60332-1-2
	Sviluppo di fumo nell'intero cavo / Smoke emission of complete cable	EN 61034-2 (trasmissione > 70%)	EN 61034-2 (light transmittance > 70 %)
	Verifica dell'assenza di alogeni / Determinazione degli alogeni - Test elementare Assessment of halogens / Determination of halogens - Elemental test	EN 50525-1, Appendice B	EN 50525-1, Annex B
		Test interni supplementari di KBE	Additional internal tests of KBE
	Interrabile / Direct burial	Prova interna KBE secondo UL 854: - Parte 23: Impact-Resistance Test - Parte 24: Crushing-Resistance Test	KBE internal test acc. To UL 854: -Section 23 Impact-Resistance Test -Section 24 Crushing-Resistance Test
	Resistenza a lungo termine dell'isolamento in acqua / Long-term insulation resistance in water	Test KBE secondo UL 44 paragrafo 5.4 e UL 2556, paragrafo 6.4: 90 °C ± 5 °C; 2000V (DC) ≥ 3 GΩ×m dopo 12 settimane risultato del test KBE: > 50 GΩ×m dopo 12 settimane	KBE test acc. to UL 44 Section 5.4 & UL 2556, Section 6.4: 90 °C ± 5 °C; 2000V (DC) ≥ 3 GΩ×m after 12 weeks test result KBE: > 50GΩ×m after 12 weeks
	Classificazione nella categoria AD8 / Classification to the category AD8	verifica in conformità ad EN 50525-21 - Appendice E: - Prova di tensione in acqua con 1 kV AC, a 50 °C per 100 giorni senza interruzioni - Assorbimento d'acqua della guaina dopo 100 giorni di stoccaggio in acqua a 50 °C < 40% - Resistenza di isolamento di almeno 1011 Ω·cm	Tested acc. to EN 50525-21 – Annex E: - Voltage at 1 kV on cable in water at 50 °C during 100 days without any break - Water absorption on sheath after immersion 100 days at 50 °C less than 40 % - Insulation resistance tests with a minimum resistivity of 10 ¹¹ Ω·cm
	Resistenza di isolamento a lungo termine in aria / Long-term insulation resistance in air	Test KBE secondo UL 44, paragrafo 5.5 e UL 2556, paragrafo 6.4: 120 °C; 2000V (DC) ≥ 50 GΩ×m dopo 12 settimane	KBE test acc. to UL 44, Section 5.5 & UL 2556, Section 6.4: 120 °C; 2000V (DC) ≥ 50 GΩ×m after 12 weeks
	Max. tensione di servizio ammessa con KBE / Max. permissible operating voltage by KBE	2,0 / 2,0 kV _{DC}	2,0/ 2,0 kV _{DC}
	Rigidità dielettrica / Dielectrical strength	12 kV 60 Min. Confronto con il requisito della EN 50618: 6,5 kV; 5 min.	12 kV 60 min Comparison to Requirement of EN 50618: 6,5 kV; 5 min
	Resistenza all'acqua salina / Resistance against salt water	Stoccaggio a 23 °C per 7 giorni in soluzione salina satura modifica del carico di rottura < 5%	storage at 23 °C for 7 days in saturated salt solution Change of tensile strength < 5 %
	Resistenza all'ammoniaca / Resistance against Ammonia	7 giorni a 23 °C in atmosfera satura di ammoniaca (Test interno)	7 days at 23 °C saturated ammonia atmosphere (int. Test)
	Capacità elettrica e costante dielettrica relativa / Electrical capacitance and relative permittivity	Test KBE secondo UL 44, paragrafo 5.6 e UL 2556, paragrafo 6.5: temperatura dell'acqua 90 °C ± 5 °C; immersione per 14 giorni Permittività relativa dopo 1 giorno di immersione ≤ 6% Capacità dopo 14 giorni di immersione ≤ 10% Differenza di capacità dal giorno 7 al giorno 14 ≤ 4%	KBE test acc. to UL 44, Section 5.6 & UL 2556, Section 6.5: 90 °C ± 5 °C water temperature; immersion for 14 days relative permittivity after 1 day immersion ≤ 6 % capacitance after 14 days immersion ≤ 10 % difference in capacitance from day 7 to day 14 ≤ 4 %
	Direttive e certificazioni / Certificates & Guidelines	EN 50618, IEC 62930, 2 PFG 1169/10.19 Certificazione TÜV Renania n° R60147048 RoHS 2011/65/UE + 2015/863/UE REACH 1907/2006	EN 50618, IEC 62930, 2 PFG 1169/10.19 TÜV Rheinland certificate-Nr. R60147048 RoHS 2011/65/EU + 2015/863/EU REACH 1907/2006

Stampa / Printing:

KBE SOLAR DB+ X,XX mm² H1Z2Z2-K 62930 IEC 131 PV 1500-K HALOGEN FREE LOW SMOKE MADE IN GERMANY CE EAC

Sezione / cross section	Struttura del conduttore / conductor design	Resistenza / resistance	Min. spessore isolamento / min. insulation thickness	Min. spessore guaina / min. jacket thickness	Ø esterno / outer Ø	Peso / weight	Confezionamento / packaging	Codice articolo KBE / KBE item no		
[mm ²]	n x max- Ø [mm]	Rmax. [mΩ/m]	[mm]	[mm]	[mm]	[kg/km]	[Meter]	● nero / black	● rosso / red	● blu / blue
4,0	56 x 0,310	5,09	0,53	0,58	5,4	55	500 / 1.000	730400015060QUSW	730400015060QURT	730400015060QUBL
4,0	56 x 0,310	5,09	0,53	0,58	5,4	55	100 Ring	820400015060QUSW	820400015060QURT	820400015060QUBL
6,0	80 x 0,310	3,39	0,53	0,58	6,0	75	500 / 1.000	730600015060QUSW	730600015060QURT	730600015060QUBL
6,0	80 x 0,310	3,39	0,53	0,58	6,0	75	100 Ring	820600015060QUSW	820600015060QURT	820600015060QUBL
10,0	80 x 0,410	1,95	0,53	0,58	7,1	115	500	731000015060QUSW	731000015060QURT	731000015060QUBL
10,0	80 x 0,410	1,95	0,53	0,58	7,1	115	100 Ring	821000015060QUSW	821000015060QURT	821000015060QUBL

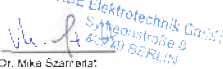
power in wire and cables

KBE Solar DB+ Certificati / certificates

Ultimo aggiornamento: 01/08/2020 / Stand: 01.08.2020

Zertifikat		Certificate	
Zertifikat Nr. / Certificate No. R 60147048	Blatt / Sheet 0001	TÜVRheinland	
Ihr Zeichen / Client Reference 1837/19	Unser Zeichen / Our Reference 0010--60193773 002	Anstellungsdatum / Date of Issue 03.03.2020	
Genehmigungsinhaber / License Holder KBE Elektrotechnik GmbH Symeonstr. 8 12279 Berlin Deutschland		Fertigungsstätte / Manufacturing Plant KBE Elektrotechnik GmbH Symeonstr. 8 12279 Berlin Deutschland	
Prüfzeichen / Test Mark 	Geprüft nach / Tested acc. to EN 50618:2014		
Zertifiziertes Produkt (Geräteidentifikation) Certified Product PV Components for BOS - electrical / PV cable		Lizenzentgelte - Einheit License Fee - Unit 13	
Type Designation: KBE Solar DB+ Code designation: H12222-K Cross section: 4,0mm² ; 6,0mm² ; 10,0mm² Rated voltage: AC U0/U 1,0/ 1,0kV DC 1,5kV max. voltage: DC 1,8kV (conductor/conductor and conductor/earth) Ambient temperature range ta: -40°C to +90°C max. temperature at conductor: +120°C @ 20,00h Colour insulation: white Colour sheath: black Material insulation: crosslinked Polyolefine Material sheath: crosslinked Polyolefine Remark: Sheath also in red and blue when requested			
Dem Zertifikat liegt unsere Prüf- und Zertifizierungseinstellung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundsätzen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich beachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht. This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance. TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg Tel.: +49 221 806-1371 e-mail: cert-validity@tvr.com Fax: +49 221 806-3035 http://www.tuv.com/safety Zertifizierungsstelle Guide Volberg			

Zertifikat		Certificate	
Zertifikat Nr. / Certificate No. R 60147048	Blatt / Sheet 0002	TÜVRheinland	
Ihr Zeichen / Client Reference 1837/19	Unser Zeichen / Our Reference 0010--60193773 003	Anstellungsdatum / Date of Issue 03.03.2020	
Genehmigungsinhaber / License Holder KBE Elektrotechnik GmbH Symeonstr. 8 12279 Berlin Deutschland		Fertigungsstätte / Manufacturing Plant KBE Elektrotechnik GmbH Symeonstr. 8 12279 Berlin Deutschland	
Prüfzeichen / Test Mark 	Geprüft nach / Tested acc. to IEC 62930:2017		
Zertifiziertes Produkt (Geräteidentifikation) Certified Product PV Components for BOS - electrical / PV cable		Lizenzentgelte - Einheit License Fee - Unit 1	
Type Designation: KBE Solar DB+ Code designation: 62930 IEC 131 Cross section: 4,0mm² ; 6,0mm² ; 10,0mm² Rated voltage: AC U0/U 1,0/ 1,0kV DC 1,5kV max. voltage: DC 1,8kV (conductor/conductor and conductor/earth) Ambient temperature range ta: -40°C to +90°C max. temperature at conductor: +120°C @ 20,00h Colour insulation: white Colour sheath: black Material insulation: crosslinked Polyolefine Material sheath: crosslinked Polyolefine Remark: Sheath also in red and blue when requested			
Dem Zertifikat liegt unsere Prüf- und Zertifizierungseinstellung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundsätzen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich beachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht. This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance. TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg Tel.: +49 221 806-1371 e-mail: cert-validity@tvr.com Fax: +49 221 806-3035 http://www.tuv.com/safety Zertifizierungsstelle Guide Volberg			

Declaration of Performance: DoP 0225		KBE BERLIN										
According to Annex II of regulation (EU) no. 305/2011												
1. Unique identification code of the product type:	H12222-K											
2. Product name:	KBE Solar DB+											
3. Usage:	Cables for general applications in construction works subject to reaction to fire											
4. Manufacturer:	KBE Elektrotechnik GmbH Symeonstraße 8 12279 Berlin											
5. System of assessment and verification of constancy of performance:	System 3											
6. Product certification body:	ISSEP - Institut scientifique de service public No. 2659											
7. In case of declaration of performance concerning a construction product covered by a harmonized standard:	The product certification body performed the type testing under system 3 subject to reaction to fire and issued: - Test report no. 0626-1 up to -4/2020 - Test report no. 0627-3 up to -4/2020 - Test report no. 0671-1 up to -2/2020 - Classification report no. 1012/2020											
8. Declared performance:	<table border="1"> <thead> <tr> <th>Essential characteristics</th> <th>performance</th> <th>Harmonized technical standard</th> </tr> </thead> <tbody> <tr> <td>Reaction to fire</td> <td>Dca-s2, d2, s1</td> <td>EN 50575:2014 + A1:2016</td> </tr> <tr> <td>Hazardous substances</td> <td>NPD</td> <td>-</td> </tr> </tbody> </table>			Essential characteristics	performance	Harmonized technical standard	Reaction to fire	Dca-s2, d2, s1	EN 50575:2014 + A1:2016	Hazardous substances	NPD	-
Essential characteristics	performance	Harmonized technical standard										
Reaction to fire	Dca-s2, d2, s1	EN 50575:2014 + A1:2016										
Hazardous substances	NPD	-										
9. The performance of the product identified in points 1 & 2 is in conformity with the declared performance in point 8. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.												
Signed for and on behalf of the manufacturer by:												
Berlin, 20.05.2020 (Place, Date)  Dr. Mike Szaniblat Executive Director R & D KBE / DLB Group												
power in wire and cables Declarations are based on the information provided by the manufacturer and are not a substitute for a technical specification. The manufacturer is responsible for the accuracy of the information provided. KBE Elektrotechnik GmbH Symeonstr. 8 12279 Berlin, Deutschland Tel.: +49 (0) 30 25204-100 Fax: +49 (0) 30 25204-140 info@kbe-elektrotechnik.com												

Zertifikat		Certificate	
Zertifikat Nr. / Certificate No. R 60147048	Blatt / Sheet 0003	TÜVRheinland	
Ihr Zeichen / Client Reference 448/20	Unser Zeichen / Our Reference 0010--60193773 004	Anstellungsdatum / Date of Issue 09.07.2020	
Genehmigungsinhaber / License Holder KBE Elektrotechnik GmbH Symeonstr. 8 12279 Berlin Deutschland		Fertigungsstätte / Manufacturing Plant KBE Elektrotechnik GmbH Symeonstr. 8 12279 Berlin Deutschland	
Prüfzeichen / Test Mark 	Geprüft nach / Tested acc. to 2 PEG 1169/10.19		
Zertifiziertes Produkt (Geräteidentifikation) Certified Product PV Components for BOS - electrical / PV - Cables		Lizenzentgelte - Einheit License Fee - Unit	
as page 0001 - 0002/ Supplement: Product complies also with the above mentioned standard. Additional Code designation: PV 1500-K			
Dem Zertifikat liegt unsere Prüf- und Zertifizierungseinstellung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundsätzen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich beachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht. This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance. TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg Tel.: +49 221 806-1371 e-mail: cert-validity@tvr.com Fax: +49 221 806-3035 http://www.tuv.com/safety Zertifizierungsstelle Guide Volberg			

power in wire and cables

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>70 GW nel mondo / >70 GW worldwide