

# BiTcrane®(N)TSCGEW0EU-SR

RoHS 2015/863/EU

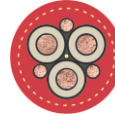
CPR

CPR 305/2011

24 months warranty

Crane cables

Medium voltage, flexible power supply cable for reeling applications based on DIN VDE 0250-813



## Technical data:

### Thermal parameters:

#### Ambient temperature:

for fixed installation: -50 °C to 80 °C

reeling operation: -30 °C to 80 °C

**Max. permissible conductor temp.:** 90 °C

**Max. short-circuit temp. at conductor:** 250 °C

**De-rating factors:** acc. to DIN VDE 0298-4

### Mechanical parameters:

**Max. tensile load on conductor:** 20 N/mm<sup>2</sup>

**Torsional stresses:** ±25 °/m

**Bending radius:** acc. to DIN VDE 0298-3

**Min. distance with S-type directional changes:** 20 x O.D.

**Reeling speed:** up to 180 m/min

## Design:

### Main cores

#### Conductors:

plain copper wires, finely stranded, class 5  
acc. to IEC 60228

#### Insulation:

- inner semi-conductive stress control layer  
- EPR compound with improved electrical and mechanical characteristics based on DIN VDE 0207-20  
- outer semi-conductive insulation shield layer

### Ground conductor

#### Conductor:

plain copper wires, finely stranded, class 5  
acc. to IEC 60228, semi-conductive layer

### Core arrangement:

three main cores laid-up with optimised lay length, ground conductor cross-section split into 3 parts in the outer interstices

### Inner sheath:

heavy duty rubber compound, quality 5GM5 based on DIN VDE 0207-21, filling the interstices, colour: red

### Reinforcement:

red braid made of synthetic threads, placed between inseparably bonded inner and outer sheath, acting as an anti-twist protection

### Outer sheath:

heavy duty rubber compound, quality 5GM5  
acc. to DIN VDE 0207-21; colour: red; inkjet marking

\*other designs, e.g. with cradle separator or according to application available on request

## Application:

Flexible reeling cable for power supply with cable guidance in different levels, e.g. reel axis in travel direction. Especially for high and extreme mechanical stress. For connection of large material handling machines in open pit mines, different crane types in harbours, shipyards, stacker/reclaimers in stockyards and other industrial areas.

## Chemical parameters:

Resistance to oil: DIN EN / IEC 60811-404

Behaviour in case of fire: DIN EN / IEC 60332-1-2

Weather resistance: unrestricted use indoors, outdoors, resistance to ozone UV and moisture

## Electrical parameters:

| Rated voltage U <sub>0</sub> /U [kV]                                       |  | 3.6/6    | 6/10                            | 8.7/15  | 12/20   | 14/25   | 18/30   |
|--|--|----------|---------------------------------|---------|---------|---------|---------|
| Maximum permissible operating voltage in AC systems U <sub>0</sub> /U [kV] |  | 4.2/7.2  | 6.9/12                          | 10.4/18 | 13.9/24 | 17.3/30 | 20.8/36 |
| Maximum permissible operating voltage in DC systems U <sub>0</sub> /U [kV] |  | 5.4/10.8 | 9/18                            | 13.5/27 | 18/36   | 22.5/45 | 27/54   |
| AC. test voltage acc. to DIN VDE 0250-813 [kV]                             |  | 11       | 17                              | 24      | 29      | 36      | 43      |
| Current-carrying capacities in amperes                                     |  |          | acc. to DIN VDE 0298-4 table 15 |         |         |         |         |
| De-rating factors  |  |          | acc. to DIN VDE 0298-4          |         |         |         |         |

# BiTcrane<sup>®</sup>(N)TSCGEWOEU-SR

Medium voltage, flexible power supply cable for reeling applications based on DIN VDE 0250-813

Crane cables

## BiTcrane<sup>®</sup>(N)TSCGEWOEU-SR 3.6/6 kV

| Cat. no. | n x mm <sup>2</sup> | Outer diameter<br>min. - max.<br>[mm] | Approximate<br>cable weight<br>[kg/km] | Permissible<br>tensile force <sup>1)</sup><br>static/dynamic<br>[N] |
|----------|---------------------|---------------------------------------|--|---|
| BC00020  | 3x25+3x25/3         | 40-43                                 | 2400                                   | 1125 / 1500   |
| BC00021  | 3x35+3x25/3         | 43-46                                 | 2940                                   | 1575 / 2100   |
| BC00022  | 3x50+3x25/3         | 47-50                                 | 3580                                   | 2250 / 3000   |
| BC00023  | 3x70+3x35/3         | 51-54                                 | 4500                                   | 3150 / 4200   |
| BC00024  | 3x95+3x50/3         | 56-59                                 | 5670                                   | 4275 / 5700   |
| BC00025  | 3x120+3x70/3        | 59-62                                 | 6690                                   | 5400 / 7200   |
| BC00026  | 3x150+3x70/3        | 62-65                                 | 7810                                   | 6750 / 9000   |
| BC00027  | 3x185+3x95/3        | 69-72                                 | 9460                                   | 8325 / 11100  |
| BC00028  | 3x240+3x120/3       | 73-76                                 | 11700                                  | 10800 / 14400   |

## BiTcrane<sup>®</sup>(N)TSCGEWOEU-SR 6/10 kV

| Cat. no. | n x mm <sup>2</sup> | Outer diameter<br>min. - max.<br>[mm] | Approximate<br>cable weight<br>[kg/km] | Permissible<br>tensile force <sup>1)</sup><br>static/dynamic<br>[N] |
|----------|---------------------|---------------------------------------|--|---|
| BC00001  | 3x25+3x25/3         | 42-45                                 | 2570                                   | 1125 / 1500   |
| BC00003  | 3x35+3x25/3         | 44-47                                 | 3020                                   | 1575 / 2100   |
| BC00005  | 3x50+3x25/3         | 48-51                                 | 3670                                   | 2250 / 3000   |
| BC00007  | 3x70+3x35/3         | 53-56                                 | 4750                                   | 3150 / 4200   |
| BC00009  | 3x95+3x50/3         | 57-60                                 | 5770                                   | 4275 / 5700   |
| BC00010  | 3x120+3x70/3        | 60-63                                 | 6820                                   | 5400 / 7200   |
| BC00011  | 3x150+3x70/3        | 65-68                                 | 8150                                   | 6750 / 9000   |
| BC00012  | 3x185+3x95/3        | 70-73                                 | 9590                                   | 8325 / 11100  |
| BC00013  | 3x240+3x120/3       | 74-77                                 | 11830                                  | 10800 / 14400   |

## BiTcrane<sup>®</sup>(N)TSCGEWOEU-SR 8.7/15 kV

| Cat. no. | n x mm <sup>2</sup> | Outer diameter<br>min. - max.<br>[mm] | Approximate<br>cable weight<br>[kg/km] | Permissible<br>tensile force <sup>1)</sup><br>static/dynamic<br>[N] |
|----------|---------------------|---------------------------------------|--|---|
| BC00035  | 3x25+3x25/3         | 42-45                                 | 2570                                   | 1125 / 1500   |
| BC00036  | 3x35+3x25/3         | 44-47                                 | 3020                                   | 1575 / 2100   |
| BC00037  | 3x50+3x25/3         | 48-51                                 | 3670                                   | 2250 / 3000   |
| BC00038  | 3x70+3x35/3         | 53-56                                 | 4750                                   | 3150 / 4200   |
| BC00039  | 3x95+3x50/3         | 57-60                                 | 5770                                   | 4275 / 5700   |
| BC00040  | 3x120+3x70/3        | 60-63                                 | 6820                                   | 5400 / 7200   |
| BC00041  | 3x150+3x70/3        | 65-68                                 | 8150                                   | 6750 / 9000   |
| BC00042  | 3x185+3x95/3        | 70-73                                 | 9590                                   | 8325 / 11100  |
| BC00043  | 3x240+3x120/3       | 74-77                                 | 11830                                  | 10800 / 14400   |

## BiTcrane<sup>®</sup>(N)TSCGEWOEU-SR 12/20 kV

| Cat. no. | n x mm <sup>2</sup> | Outer diameter<br>min. - max.<br>[mm] | Approximate<br>cable weight<br>[kg/km] | Permissible<br>tensile force <sup>1)</sup><br>static/dynamic<br>[N] |
|----------|---------------------|---------------------------------------|--|---|
| BC00050  | 3x25+3x25/3         | 49-52                                 | 3260                                   | 1125 / 1500   |
| BC00051  | 3x35+3x25/3         | 53-56                                 | 3920                                   | 1575 / 2100   |
| BC00052  | 3x50+3x25/3         | 57-60                                 | 4630                                   | 2250 / 3000   |
| BC00053  | 3x70+3x35/3         | 60-63                                 | 5620                                   | 3150 / 4200   |
| BC00054  | 3x95+3x50/3         | 65-68                                 | 6930                                   | 4275 / 5700   |
| BC00055  | 3x120+3x70/3        | 69-72                                 | 8040                                   | 5400 / 7200   |
| BC00056  | 3x150+3x70/3        | 72-75                                 | 9200                                   | 6750 / 9000   |
| BC00057  | 3x185+3x95/3        | 78-81                                 | 10990                                  | 8325 / 11100  |
| BC00058  | 3x240+3x120/3       | 83-86                                 | 13320                                  | 10800 / 14400   |

# BiTcrane<sup>®</sup>(N)TSCGEWOEU-SR

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## BiTcrane<sup>®</sup>(N)TSCGEWOEU-SR 14/25 kV

| Cat. no. | n x mm <sup>2</sup> | Outer diameter<br>min. – max.<br>[mm] | Approximate<br>cable weight<br>[kg/km] | Permissible<br>tensile force <sup>*)</sup> ,<br>static/dynamic<br>[N] |
|----------|---------------------|---------------------------------------|--|---|
| BC00385  | 3x25+3x25/3         | 55-58                                 | 3900                                   | 1125 / 1500   |
| BC00386  | 3x35+3x25/3         | 57-60                                 | 4420                                   | 1575 / 2100   |
| BC00387  | 3x50+3x25/3         | 61-64                                 | 5160                                   | 2250 / 3000   |
| BC00388  | 3x70+3x35/3         | 66-69                                 | 6420                                   | 3150 / 4200   |
| BC00389  | 3x95+3x50/3         | 70-73                                 | 7540                                   | 4275 / 5700   |

## BiTcrane<sup>®</sup>(N)TSCGEWOEU-SR 18/30 kV

| Cat. no. | n x mm <sup>2</sup> | Outer diameter<br>min. – max.<br>[mm] | Approximate<br>cable weight<br>[kg/km] | Permissible<br>tensile force <sup>*)</sup> ,<br>static/dynamic<br>[N] |
|----------|---------------------|---------------------------------------|--|---|
| BC00400  | 3x25+3x25/3         | 58-61                                 | 4310                                   | 1125 / 1500   |
| BC00401  | 3x35+3x25/3         | 61-64                                 | 4850                                   | 1575 / 2100   |
| BC00402  | 3x50+3x25/3         | 66-69                                 | 5850                                   | 2250 / 3000   |
| BC00410  | 3x70+3x50/3         | 70-73                                 | 7030                                   | 3150 / 4200   |
| BC00404  | 3x95+3x50/3         | 73-76                                 | 8060                                   | 4275 / 5700   |

Cable Factory BITNER reserves the right to modify specifications without prior notification.

<sup>\*)</sup> please contact us if higher loads are required.

Note: on customer's request other cross sections or number of cores can be produced