



Medium-voltage rubber reeling cables (DIN VDE 0250-813)

HVR / HVR-D (N)TSCGEWOEU

HVR / HVR-D MV Rubber Reeling Cable (N)TSCGEWOEU (3.6/6–12/20 kV)

Red 5GM5 medium-voltage reeling cable (3.6/6–12/20 kV) with optional 12/24 optical fibres



3.6/6–12/20 kV

(N)TSCGEWOEU-FO

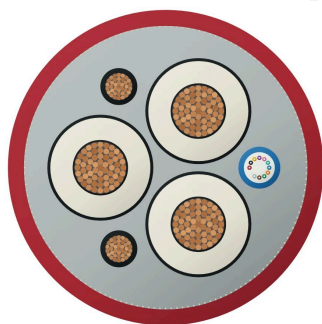
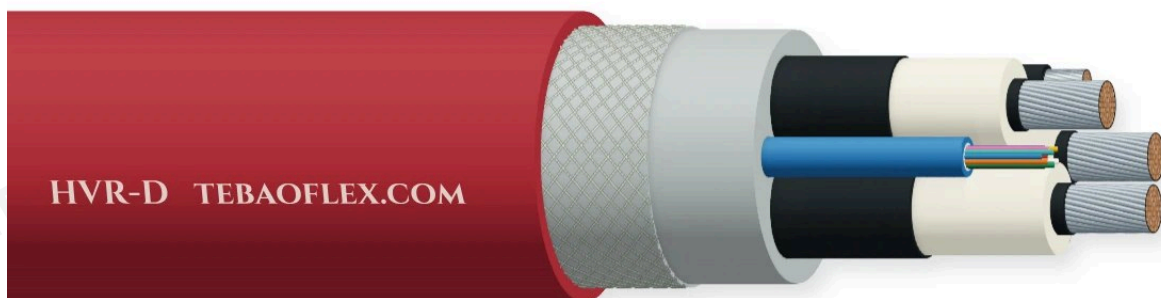
Red 5GM5 · 180 m/min

Application

Medium-voltage reeling cable (3.6/6 to 12/20 kV) adapted to DIN VDE 0250-813 ((N)TSCGEWOEU / -FO) with tinned copper cores, triple-extruded EPR-MV field control, GM1b inner sheath, anti-torsion braid, and red 5GM5 outer sheath up to 180 m/min.

Typical uses: Container Ports & STS Cranes, Ship Unloaders & Bulk Terminals, Stacker / Reclaimers, Surface Mining Excavators

Construction



Cross-section, not to scale

- 1 Extra-flexible tinned copper conductor
- 2 Inner & outer semi-conductive stress control (CGE)
- 3 High-voltage EPR-MV core insulation
- 4 Split earth & optical fibre tubes (HVR-D)
- 5 Extruded inner sheath (GM1b)
- 6 Embedded anti-torsion synthetic braid
- 7 Outer sheath (5GM5 Red)

Technical data

Typical values

Rated voltage U0/U	3.6/6 kV, 6/10 kV, 8.7/15 kV, and 12/20 kV (higher voltage grades on request)	Max. operating voltage AC	7.2 kV (3.6/6 kV) · 7.0/12.0 kV (6/10 kV) · 10.2/18.0 kV (8.7/15 kV) · 14.0/24.0 kV (12/20 kV)
Max. operating voltage DC	9.0/18.0 kV (6/10 kV) · 13.0/26.0 kV (8.7/15 kV) · 18.0/36.0 kV (12/20 kV)	AC test voltage (DIN VDE 0250-813)	11 kV (3.6/6 kV) · 17 kV (6/10 kV) · 24 kV (8.7/15 kV) · 29 kV (12/20 kV) per DIN VDE 0250-813
Current rating (DIN VDE 0298-4)	Per DIN VDE 0298-4 at 30 °C ambient (apply reel layer factors: 0.80 for 1 layer, 0.61 for 2 layers, 0.49 for 3 layers)	Temperature, flexing	–30 °C to +80 °C (special –45 °C low-temperature version on request)
Temperature, fixed installation	–50 °C to +80 °C	Max. conductor temperature	+90 °C
Short-circuit temperature	+250 °C	Max. travel speed	Up to 180 m/min (> 180 m/min on request)
Max. tensile load (dynamic)	20 N/mm ² during dynamic reeling (1,500–7,125 N across catalog sizes)	Min. bending radius, moving	12 × D on the reel · 15 × D at deflection pulley · 20 × D at S-type directional changes
Permissible torsional stress	±25 °/m permissible operational torsion	Fibre types & tube coding (HVR-D)	HVR-D / HVR-FO: 12 or 24 fibres in 1 or 2 loose tubes (E9/125 ITU-T G.652D, 50/125 OM2, or 62.5/125 OM1)
Optical attenuation & bandwidth	E9/125: ≤ 0.40 dB/km (1310 nm), ≤ 0.28 dB/km (1550 nm) · 50/125: ≤ 2.6 dB/km nom. (850 nm), ≤ 1.0 dB/km max (1310 nm) · 62.5/125: ≤ 3.5 dB/km (850 nm), ≤ 1.5 dB/km (1310 nm)	Oil, UV, ozone & corrosion	Oil, ozone, UV, humidity and atmospheric corrosion resistant; CFC-free, LBS-free / silicone-free
Flame retardance	Flame-retardant and self-extinguishing per IEC 60332-1-2 / DIN EN 60332-1-2 / DIN VDE 0482-265-2-1	Standards	(N)TSCGEWOEU / (N)TSCGEWOEU-FO adapted to DIN VDE 0250-813; optical fibres per DIN VDE 0888 / IEC 60793-2-10

Sizes

14 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Designation	Configuration	Outer Ø min	Outer Ø max	Cu number	Weight ≈	Permitted pull	Reel R min 12=D
HVR MV Power Cable (3 × 25 – 3 × 150 mm²) 7 sizes							
☐ HVR 3 × 25 + 3 × 25/3	3 × 25 + 3 × 25/3	41	43	1,008	2,540	3,000	516
☐ HVR 3 × 35 + 3 × 25/3	3 × 35 + 3 × 25/3	42	44	1,296	2,825	3,000	528
☐ HVR 3 × 50 + 3 × 25/3	3 × 50 + 3 × 25/3	46	49	1,728	3,460	3,000	588
☐ HVR 3 × 70 + 3 × 35/3	3 × 70 + 3 × 35/3	50	53	2,477	4,400	4,200	636
☐ HVR 3 × 95 + 3 × 50/3	3 × 95 + 3 × 50/3	55	58	3,197	5,570	7,125	696
☐ HVR 3 × 120 + 3 × 70/3 (on request)	3 × 120 + 3 × 70/3	59	63	4,128	6,850	7,200	756
☐ HVR 3 × 150 + 3 × 70/3 (on request)	3 × 150 + 3 × 70/3	63	67	4,992	8,100	9,000	804
HVR-D / HVR-FO Power + 12/24 Optical Fibres 7 sizes							
☐ HVR-D 3 × 25 + 2 × 25/2 + 12 FO	3 × 25 + 2 × 25/2 + 12 FO	42.7	45.7	1,008	2,830	1,500	548
☐ HVR-D 3 × 35 + 2 × 25/2 + 12 FO	3 × 35 + 2 × 25/2 + 12 FO	45.5	48.5	1,296	3,390	2,100	582
☐ HVR-D 3 × 50 + 2 × 25/2 + 24 FO	3 × 50 + 2 × 25/2 + 24 FO	48.3	51.3	1,728	3,590	3,000	616
☐ HVR-D 3 × 70 + 2 × 35/2 + 24 FO	3 × 70 + 2 × 35/2 + 24 FO	53.1	57.1	2,477	5,130	4,200	685
☐ HVR-D 3 × 95 + 2 × 50/2 + 24 FO	3 × 95 + 2 × 50/2 + 24 FO	57	61	3,197	6,120	5,700	732
☐ HVR-D 3 × 120 + 2 × 70/2 + 24 FO (on req.)	3 × 120 + 2 × 70/2 + 24 FO	61	65	4,128	7,250	7,200	780
☐ HVR-D 3 × 150 + 2 × 70/2 + 24 FO (on req.)	3 × 150 + 2 × 70/2 + 24 FO	65	69	4,992	8,500	9,000	828

– Published outer diameters and weights apply to voltage grades 3.6/6 kV up to 8.7/15 kV; 12/20 kV and 120–150 mm² builds are engineered on request (estimated reference dimensions shown for 120–150 mm²).

- In HVR-D 25 mm² and 35 mm², 12 optical fibres are housed in one compact buffer tube; from 50 mm² upward, 24 optical fibres are arranged in two buffer tubes (12 + 12 FO).
- Permitted dynamic tensile loads correspond to 20 N/mm² of phase conductor cross-section (up to 7,125 N on HVR 3 × 95 + 3 × 50/3).

Electrical reference data

14 sizes

Designation	Voltage Range	Max. DC R 20 °C	Ref. Ampacity 30 °C	AC Test Voltage
HVR MV Power Cable (3 × 25 – 3 × 150 mm²) 7 sizes				
HVR 3 × 25 + 3 × 25/3	3.6/6 to 8.7/15 kV (12/20 kV req.)	0.795	131	11 / 17 / 24 kV AC (VDE 0250-813)
HVR 3 × 35 + 3 × 25/3	3.6/6 to 8.7/15 kV (12/20 kV req.)	0.565	162	11 / 17 / 24 kV AC (VDE 0250-813)
HVR 3 × 50 + 3 × 25/3	3.6/6 to 8.7/15 kV (12/20 kV req.)	0.393	202	11 / 17 / 24 kV AC (VDE 0250-813)
HVR 3 × 70 + 3 × 35/3	3.6/6 to 8.7/15 kV (12/20 kV req.)	0.277	250	11 / 17 / 24 kV AC (VDE 0250-813)
HVR 3 × 95 + 3 × 50/3	3.6/6 to 8.7/15 kV (12/20 kV req.)	0.210	301	11 / 17 / 24 kV AC (VDE 0250-813)
HVR 3 × 120 + 3 × 70/3 (on request)	3.6/6 to 8.7/15 kV (12/20 kV req.)	0.164	352	11 / 17 / 24 kV AC (VDE 0250-813)
HVR 3 × 150 + 3 × 70/3 (on request)	3.6/6 to 8.7/15 kV (12/20 kV req.)	0.132	404	11 / 17 / 24 kV AC (VDE 0250-813)
HVR-D / HVR-FO Power + 12/24 Optical Fibres 7 sizes				
HVR-D 3 × 25 + 2 × 25/2 + 12 FO	3.6/6 to 8.7/15 kV (12/20 kV req.)	0.795	131	11 / 17 / 24 kV AC (VDE 0250-813)
HVR-D 3 × 35 + 2 × 25/2 + 12 FO	3.6/6 to 8.7/15 kV (12/20 kV req.)	0.565	162	11 / 17 / 24 kV AC (VDE 0250-813)
HVR-D 3 × 50 + 2 × 25/2 + 24 FO	3.6/6 to 8.7/15 kV (12/20 kV req.)	0.393	202	11 / 17 / 24 kV AC (VDE 0250-813)
HVR-D 3 × 70 + 2 × 35/2 + 24 FO	3.6/6 to 8.7/15 kV (12/20 kV req.)	0.277	250	11 / 17 / 24 kV AC (VDE 0250-813)
HVR-D 3 × 95 + 2 × 50/2 + 24 FO	3.6/6 to 8.7/15 kV (12/20 kV req.)	0.210	301	11 / 17 / 24 kV AC (VDE 0250-813)
HVR-D 3 × 120 + 2 × 70/2 + 24 FO (on req.)	3.6/6 to 8.7/15 kV (12/20 kV req.)	0.164	352	11 / 17 / 24 kV AC (VDE 0250-813)
HVR-D 3 × 150 + 2 × 70/2 + 24 FO (on req.)	3.6/6 to 8.7/15 kV (12/20 kV req.)	0.132	404	11 / 17 / 24 kV AC (VDE 0250-813)

- Maximum DC conductor resistance at 20 °C per IEC 60228 Table 3 for Class 5 tinned copper conductors.
- Free-air reference ampacity at 30 °C ambient per DIN VDE 0298-4 for 6/10 kV trailing/reeling cables; multiply by reel layer factor (0.80 for 1 layer, 0.61 for 2 layers, 0.49 for 3 layers).

Standards and approvals

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

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Typical values for this cable type. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.