HARMONISED FLEXIBLE CABLE 450/750 V · DIN VDE 0282 / EN 50525 | 450/750 V | 10 sizes | PUR, low-temp | TINNED COPPER | LOW-TEMPERATURE GRADE

# H07BQ-F 3G 450/750 V

PUR-Sheathed Flexible Cable 450/750 V 450/750 V – 3 cores of equal cross-section in concentric layers with a short lay length. Low-temperature polyurethane sheath. Complete technical data sheet: construction, dimensions, weights, current ratings, voltage drop and installation guidance for 10 sizes.

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## 01 Application and Product Overview

H07BQ-F is the harmonised PUR-sheathed flexible cable for 450/750 V. EPR-insulated fine-wire cores are enclosed in an orange polyurethane sheath that is far more resistant to cuts, abrasion and oil than a rubber sheath. The cable is halogen-free and is used for tools, drives and machines in workshops, on building sites and in industry.

### Design

The conductors are class 5 fine-wire copper, bare or tinned. The insulation is EPR (type 3GI3) rated for 90 °C at the conductor. The outer sheath is polyurethane of type TMPU (EN 50363-10-2), extruded tightly over the stranded cores. The bright orange sheath makes the cable easy to see on a site.

### Typical applications

- Hand-held tools, drills and saws on building sites
- Machine connections in workshops, with oil and coolant exposure
- Cleaning, spray and wash-down equipment
- Garden, agricultural and forestry machinery
- Mobile compressors and generators
- Extension cables and cable reels for site distribution
- Production lines with abrasive floors
- Cold-climate duty: sites, cold stores and open-cast operations where the cable is moved at temperatures down to 40 °C

| 10 sizes | 450/750 V | +90 °C | Halogen-free |
|---|---|---|---|
| Cross-section 1 – 50 mm² | Rated voltage $U_0/U$ | Maximum conductor temperature | Sheath: PUR, low-temp |

### Key features

- Orange PUR sheath: high resistance to cuts, abrasion, tear and oil
- Halogen-free; hydrolysis- and microbe-resistant
- EPR insulation rated 90 °C at the conductor
- Rated voltage 450/750 V, test voltage 2.5 kV
- Flexible use from −30 °C to +80 °C, fixed use from −40 °C to +90 °C
- Bending radius 5 × D flexing, 3 × D fixed
- 10 sizes from 1 to 50 mm²; weight from 119 to 2,380 kg/km; copper from 29 to 1,440 kg/km

### Core layout and conductor

3 cores of equal cross-section in concentric layers with a short lay length. Core colours: green-yellow, blue, brown (DIN VDE 0293-308); the green-yellow core is the protective conductor. The three-core layout feeds a three-phase motor without neutral in a TN-S system. The conductors are tinned: each copper wire carries a thin tin coating. Tinning protects the copper against oxidation and corrosion in damp, salty or sulphurous atmospheres and keeps the conductor solderable, which is an advantage in outdoor, marine and mining installations. The resistance limits of tinned class 5 conductors are marginally higher than for bare copper; the $R_{20}$ column shows the tinned values.


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## Standard background

H05BQ-F and H07BQ-F are harmonised types covered by DIN VDE 0282-10 (HD 22.10) and now by DIN EN 50525-2-21. The cable replaced the former VDE type NGMH11YÖ. H07 identifies the 450/750 V rating, B the EPR insulation, Q the polyurethane sheath and F the flexible conductor.

The low-temperature grade of the sheath compound remains flexible down to 40 °C in motion and 50 °C in fixed installation, so the cable can be reeled and trailed on cold sites, in cold stores and in northern open-cast operations. The mechanical and electrical ratings are those of the standard grade; only the cold-flexing limit is extended.

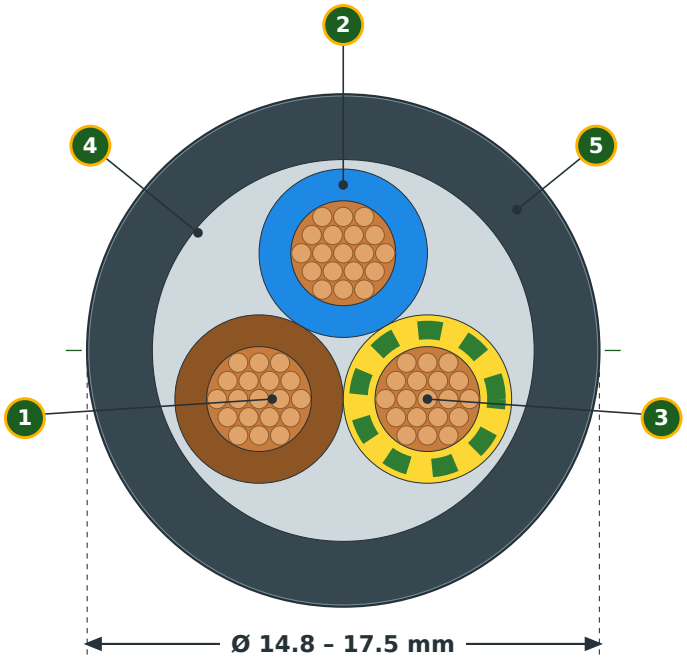
450/750 V is the common rating for industrial and building-site distribution on 400 V systems and allows a margin for DC and rectified supplies. The test voltage is 2.5 kV.

## 02 Construction

**FEICHUN · CROSS-SECTION A–A · 450/750 V**

**H07BQ-F**

Sample size 3G6 · Rev 0 · Illustrative, not to scale




| No. | Component | Material |
|---|---|---|
| 1 | Conductor | Tinned annealed fine-wire copper, class 5 to IEC 60228 / DIN VDE 0295 |
| 2 | Insulation | EPR rubber, type 3GI3 (90 °C) |
| 3 | Protective (PE) core | Green-yellow insulation, same cross-section as the power cores |
| 4 | Filler and binder tape | Halogen-free filler with polyester binder tape |
| 5 | Outer sheath | Polyurethane (PUR), low-temperature grade |

The drawing shows size 3G6. Other sizes have the same construction with scaled dimensions; the layout of every size is checked for non-overlap of all elements.

## Construction details

| | |
|---|---|
| **Conductor** | Tinned annealed fine-wire copper, class 5 to DIN VDE 0295 / IEC 60228 |
| **Insulation** | EPR rubber, type 3GI3 (90 °C), maximum conductor temperature 90 °C |
| **Core identification** | Green-yellow, blue, brown to DIN VDE 0293-308 |
| **Stranding** | Cores in concentric layers with a short lay length |
| **Outer sheath** | Polyurethane (PUR), low-temperature grade; thickness about 2.1 mm at this size |


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## 03 Electrical, Thermal and Mechanical Characteristics

### Electrical data

| | |
|---|---|
| **Rated voltage $U_0/U$** | 450/750 V AC |
| **Test voltage** | 2.5 kV AC, 5 min |
| **Maximum operating voltage, three-phase** | 825 V |
| **Maximum operating voltage, DC (core-earth / core-core)** | 0.45/0.75 kV (DC 0.675/1.1 kV) |
| **Current-carrying capacity** | Design values by the method of DIN VDE 0298-4, free air, 30 °C ambient |
| **Conductor resistance** | Maximum at 20 °C, class 5, tinned |

### Thermal and mechanical data

| | |
|---|---|
| **Maximum conductor temperature** | +90 °C |
| **Maximum temperature at short circuit** | +250 °C (5 s maximum) |
| **Ambient temperature, fixed installation** | −50 °C to +90 °C |
| **Ambient temperature, in motion** | −40 °C to +90 °C |
| **Minimum bending radius** | Fixed: 3 × D (D ≤ 12 mm), 4 × D (D > 12 mm); moving: 3 × D (D ≤ 8 mm), 4 × D (D ≤ 12 mm), 5 × D (D > 12 mm) (DIN VDE 0298-3) |
| **Maximum tensile load** | 15 N/mm² continuous on the total copper cross-section |
| **Flame propagation** | IEC 60332-1-2 / DIN EN 60332-1-2 |
| **Halogen-free** | Yes (insulation and sheath), IEC 60754-1/-2 |
| **Mineral oil resistance** | Resistant, DIN EN 60811-404 |
| **UV and ozone resistance** | Resistant |
| **Water** | Damp and wet areas, spray water |

## 04 Dimensions, Weights and Rated Data – 450/750 V (10 sizes)

| Type designation cores × mm² | FeiChun article no. | Cond. Ø max mm | Outer Ø min mm | Outer Ø max mm | Bend radius fixed mm | Bend radius moving mm | Weight approx. kg/km | Copper kg/km | Max. pull N | $R_{20}$ max Ω/km | Rated current A | $I_k$ (1 s) kA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3G1** | FC-H07B-0876-01 | 1.4 | 8.2 | 9.9 | 30 | 40 | 119 | 29 | 45 | 20.0 | 17 | 0.143 |
| **3G1.5** | FC-H07B-0876-02 | 1.7 | 9.2 | 11.1 | 33 | 44 | 157 | 43 | 68 | 13.7 | 22 | 0.214 |
| **3G2.5** | FC-H07B-0876-03 | 2.2 | 10.8 | 13.1 | 52 | 66 | 215 | 72 | 112 | 8.21 | 31 | 0.357 |
| **3G4** | FC-H07B-0876-04 | 2.7 | 13.1 | 15.7 | 63 | 78 | 252 | 115 | 180 | 5.09 | 41 | 0.572 |
| **3G6** | FC-H07B-0876-05 | 3.3 | 14.8 | 17.5 | 70 | 88 | 353 | 173 | 270 | 3.39 | 53 | 0.858 |
| **3G10** | FC-H07B-0876-06 | 4.1 | 19.5 | 22.7 | 91 | 114 | 630 | 288 | 450 | 1.95 | 73 | 1.43 |
| **3G16** | FC-H07B-0876-07 | 5.2 | 22.5 | 26.0 | 104 | 130 | 940 | 460 | 720 | 1.24 | 98 | 2.29 |
| **3G25** | FC-H07B-0876-08 | 6.5 | 27.5 | 31.0 | 124 | 155 | 1,450 | 720 | 1,120 | 0.795 | 130 | 3.58 |
| **3G35** | FC-H07B-0876-09 | 7.7 | 28.5 | 32.5 | 130 | 162 | 1,730 | 1,010 | 1,580 | 0.565 | 160 | 5.00 |
| **3G50** | FC-H07B-0876-10 | 9.2 | 33.0 | 37.5 | 150 | 188 | 2,380 | 1,440 | 2,250 | 0.393 | 200 | 7.15 |

Current-carrying capacity: design values by the method of DIN VDE 0298-4, free air, 30 °C ambient; for other ambient temperatures use the factors below. Copper weight = 9.6 kg/(km·mm²) of copper cross-section (VDE copper index). Pull force = 15 N/mm² × total copper cross-section of the power cores. Diameters, dimensions and weights are nominal design values calibrated to published type tables; they vary within manufacturing tolerances. Confirm critical dimensions before dimensioning reels, glands or festoon systems. Other sizes and configurations are produced to order.

### Ambient temperature factors (conductor 90 °C)

| °C | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
|---|---|---|---|---|---|---|---|---|---|
| Factor | 1.08 | 1.04 | 1.00 | 0.96 | 0.91 | 0.87 | 0.82 | 0.76 | 0.71 |

### Short-circuit current rating

$I_k$ = 0.143 kA/mm² × cross-section of the power core (conductor 90 °C → 250 °C). For another duration t: $I_{k,t} = I_{k,1s} / \sqrt{t}$ (0.1 s ≤ t ≤ 5 s).


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## 05 Voltage Drop, Losses and Short-Circuit Data

Voltage drop per 100 m of cable at rated current with the conductor at 90 °C, cos φ = 0.8 and reactance 0.08 Ω/km (three-phase). The percentage refers to a system voltage of 400 V. Loss is the total I²R loss of the loaded cores per 100 m. The short-circuit columns give the permitted current for four durations.

| Type designation cores × mm² | Rated current A | R at 90 °C Ω/km | Voltage drop V / 100 m | Voltage drop % of 400 V | Loss kW / 100 m | $I_k$ 0.1 s kA | $I_k$ 0.5 s kA | $I_k$ 1 s kA | $I_k$ 3 s kA |
|---|---|---|---|---|---|---|---|---|---|
| **3G1** | 17 | 25.5 | 60.21 | 15.05 | 2.21 | 0.452 | 0.202 | 0.143 | 0.083 |
| **3G1.5** | 22 | 17.5 | 53.44 | 13.36 | 2.54 | 0.678 | 0.303 | 0.214 | 0.124 |
| **3G2.5** | 31 | 10.5 | 45.23 | 11.31 | 3.02 | 1.13 | 0.506 | 0.357 | 0.206 |
| **3G4** | 41 | 6.49 | 37.21 | 9.30 | 3.27 | 1.81 | 0.809 | 0.572 | 0.330 |
| **3G6** | 53 | 4.32 | 32.19 | 8.05 | 3.64 | 2.71 | 1.21 | 0.858 | 0.495 |
| **3G10** | 73 | 2.49 | 25.76 | 6.44 | 3.98 | 4.52 | 2.02 | 1.43 | 0.826 |
| **3G16** | 98 | 1.58 | 22.29 | 5.57 | 4.56 | 7.24 | 3.24 | 2.29 | 1.32 |
| **3G25** | 130 | 1.01 | 19.34 | 4.84 | 5.14 | 11.31 | 5.06 | 3.58 | 2.06 |
| **3G35** | 160 | 0.720 | 17.30 | 4.33 | 5.53 | 15.83 | 7.08 | 5.00 | 2.89 |
| **3G50** | 200 | 0.501 | 15.55 | 3.89 | 6.01 | 22.61 | 10.11 | 7.15 | 4.13 |

## 06 Selection Guide and Sizing Aid

H07BQ-F 3G covers 10 sizes. The smallest, 3G1, has an outer diameter of up to 9.9 mm and weighs about 119 kg/km; the largest, 3G50, has an outer diameter of up to 37.5 mm and weighs about 2,380 kg/km, 20.0 times as much. Across the range the rated current rises from 17 A to 200 A at 30 °C and the fixed bending radius from 30 mm to 150 mm.

**Example 1.** A circuit draws 28 A continuously at 40 °C ambient temperature, in a group of two cables. Temperature factor 0.91, grouping factor 0.80: required table current = 28 / (0.91 × 0.80) = 39 A. The smallest suitable size is 3G4 with 41 A.

**Example 2.** A circuit draws 86 A continuously at 35 °C ambient temperature, on its own. Temperature factor 0.96: required table current = 86 / (0.96) = 90 A. The smallest suitable size is 3G16 with 98 A.

## 07 Engineering Profile by Size

Every size of H07BQ-F 3G with the dimensions that decide how it behaves in a circuit: layers, weight, copper share, heat, voltage drop, bending, termination and pull.

**3G1.** This size has with a conductor of Ø 1.3 mm under 0.70 mm of insulation (core Ø 2.7 mm) and an outer sheath of 1.2 mm; outer diameter 8.2–9.9 mm, weight about 119 kg/km of which copper 29 kg/km (24 %). Rated current 17 A at 30 °C; at that load the voltage drop is 60.21 V per 100 m (15.05 % of 400 V) and the loss 2.21 kW per 100 m. Bending radius 30 mm fixed, 40 mm moving; gland M16, lug bolt M5. Short-circuit rating 0.143 kA for 1 s; permitted pull 45 N, free-hanging length 38 m.

**3G1.5.** This size has with a conductor of Ø 1.7 mm under 0.80 mm of insulation (core Ø 3.3 mm) and an outer sheath of 1.3 mm; outer diameter 9.2–11.1 mm, weight about 157 kg/km of which copper 43 kg/km (27 %). Rated current 22 A at 30 °C; at that load the voltage drop is 53.44 V per 100 m (13.36 % of 400 V) and the loss 2.54 kW per 100 m. Bending radius 33 mm fixed, 44 mm moving; gland M20, lug bolt M5. Short-circuit rating 0.214 kA for 1 s; permitted pull 68 N, free-hanging length 44 m.

**3G2.5.** This size has with a conductor of Ø 2.1 mm under 0.90 mm of insulation (core Ø 3.9 mm) and an outer sheath of 1.4 mm; outer diameter 10.8–13.1 mm, weight about 215 kg/km of which copper 72 kg/km (33 %). Rated current 31 A at 30 °C; at that load the voltage drop is 45.23 V per 100 m (11.31 % of 400 V) and the loss 3.02 kW per 100 m. Bending radius 52 mm fixed, 66 mm moving; gland M25, lug bolt M5. Short-circuit rating 0.357 kA for 1 s; permitted pull 112 N, free-hanging length 53 m.

**3G4.** This size has with a conductor of Ø 2.7 mm under 1.00 mm of insulation (core Ø 4.7 mm) and an outer sheath of 1.8 mm; outer diameter 13.1–15.7 mm, weight about 252 kg/km of which copper 115 kg/km (46 %). Rated current 41 A at 30 °C; at that load the voltage drop is 37.21 V per 100 m (9.30 % of 400 V) and the loss 3.27 kW per 100 m. Bending radius 63 mm fixed, 78 mm moving; gland M25, lug bolt M5. Short-circuit rating 0.572 kA for 1 s; permitted pull 180 N, free-hanging length 72 m.

**3G6.** This size has with a conductor of Ø 3.3 mm under 1.00 mm of insulation (core Ø 5.3 mm) and an outer sheath of 2.1 mm; outer diameter 14.8–17.5 mm, weight about 353 kg/km of which copper 173 kg/km (49 %). Rated current 53 A at 30 °C; at that load the voltage drop is 32.19 V per 100 m (8.05 % of 400 V) and the loss 3.64 kW per 100 m.


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Bending radius 70 mm fixed, 88 mm moving; gland M32, lug bolt M5. Short-circuit rating 0.858 kA for 1 s; permitted pull 270 N, free-hanging length 77 m.

**3G10.** This size has with a conductor of Ø 4.1 mm under 1.20 mm of insulation (core Ø 6.5 mm) and 0.8 mm inner and 2.5 mm outer sheath; outer diameter 19.5–22.7 mm, weight about 630 kg/km of which copper 288 kg/km (46 %). Rated current 73 A at 30 °C; at that load the voltage drop is 25.76 V per 100 m (6.44 % of 400 V) and the loss 3.98 kW per 100 m. Bending radius 91 mm fixed, 114 mm moving; gland M32, lug bolt M6. Short-circuit rating 1.43 kA for 1 s; permitted pull 450 N, free-hanging length 72 m.

**3G16.** This size has with a conductor of Ø 5.2 mm under 1.20 mm of insulation (core Ø 7.6 mm) and 0.8 mm inner and 2.9 mm outer sheath; outer diameter 22.5–26.0 mm, weight about 940 kg/km of which copper 460 kg/km (49 %). Rated current 98 A at 30 °C; at that load the voltage drop is 22.29 V per 100 m (5.57 % of 400 V) and the loss 4.56 kW per 100 m. Bending radius 104 mm fixed, 130 mm moving; gland M40, lug bolt M6. Short-circuit rating 2.29 kA for 1 s; permitted pull 720 N, free-hanging length 78 m.

**3G25.** This size has with a conductor of Ø 6.5 mm under 1.40 mm of insulation (core Ø 9.3 mm) and 0.9 mm inner and 3.5 mm outer sheath; outer diameter 27.5–31.0 mm, weight about 1,450 kg/km of which copper 720 kg/km (50 %). Rated current 130 A at 30 °C; at that load the voltage drop is 19.34 V per 100 m (4.84 % of 400 V) and the loss 5.14 kW per 100 m. Bending radius 124 mm fixed, 155 mm moving; gland M40, lug bolt M8. Short-circuit rating 3.58 kA for 1 s; permitted pull 1,120 N, free-hanging length 78 m.

**3G35.** This size has with a conductor of Ø 7.6 mm under 1.40 mm of insulation (core Ø 10.4 mm) and 0.9 mm inner and 2.8 mm outer sheath; outer diameter 28.5–32.5 mm, weight about 1,730 kg/km of which copper 1,010 kg/km (58 %). Rated current 160 A at 30 °C; at that load the voltage drop is 17.30 V per 100 m (4.33 % of 400 V) and the loss 5.53 kW per 100 m. Bending radius 130 mm fixed, 162 mm moving; gland M50, lug bolt M8. Short-circuit rating 5.00 kA for 1 s; permitted pull 1,580 N, free-hanging length 93 m.

**3G50.** This size has with a conductor of Ø 9.1 mm under 1.60 mm of insulation (core Ø 12.3 mm) and 0.9 mm inner and 3.1 mm outer sheath; outer diameter 33.0–37.5 mm, weight about 2,380 kg/km of which copper 1,440 kg/km (61 %). Rated current 200 A at 30 °C; at that load the voltage drop is 15.55 V per 100 m (3.89 % of 400 V) and the loss 6.01 kW per 100 m. Bending radius 150 mm fixed, 188 mm moving; gland M50, lug bolt M10. Short-circuit rating 7.15 kA for 1 s; permitted pull 2,250 N, free-hanging length 96 m.

Averaged over all sizes copper makes up 53 % of the cable weight; the share rises from 24 % at 3G1 to 61 % at 3G50, which is why the larger sizes are costed mostly on the copper market price.

## 08 Construction Dimensions by Size

Wall thicknesses and diameters of the layers at each size, taken from the validated cross-section layout; the overall diameter in section 04 is the sum of these layers within tolerance. The insulation wall follows the voltage class 450/750 V.

| Type designation cores × mm² | Conductor Ø mm | Core Ø over insulation, mm | Insulation wall mm | Laid-up core Ø mm | Inner sheath mm | Outer sheath mm | Screen + braid mm | Sheath share of Ø, % |
|---|---|---|---|---|---|---|---|---|
| **3G1** | 1.35 | 2.75 | 0.70 | 6.5 | – | 1.25 | – | 28 |
| **3G1.5** | 1.65 | 3.25 | 0.80 | 7.6 | – | 1.30 | – | 25 |
| **3G2.5** | 2.13 | 3.93 | 0.90 | 9.1 | – | 1.44 | – | 24 |
| **3G4** | 2.70 | 4.70 | 1.00 | 10.7 | – | 1.83 | – | 25 |
| **3G6** | 3.30 | 5.30 | 1.00 | 12.0 | – | 2.05 | – | 25 |
| **3G10** | 4.08 | 6.48 | 1.20 | 14.6 | 0.79 | 2.48 | – | 31 |
| **3G16** | 5.16 | 7.56 | 1.20 | 16.9 | 0.82 | 2.90 | – | 31 |
| **3G25** | 6.45 | 9.25 | 1.40 | 20.5 | 0.86 | 3.52 | – | 30 |
| **3G35** | 7.63 | 10.43 | 1.40 | 23.1 | 0.90 | 2.80 | – | 24 |
| **3G50** | 9.12 | 12.32 | 1.60 | 27.2 | 0.95 | 3.12 | – | 23 |


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## 09 Termination Planning (indicative)

| Type designation cores × mm² | Outer Ø or W × H mm | Cable gland thread | Lug / ferrule bolt | Strip length mm | Straight length behind gland, mm |
|---|---|---|---|---|---|
| **3G1** | 9.9 | M16 | M5 | 10 | 15 |
| **3G1.5** | 11.1 | M20 | M5 | 10 | 15 |
| **3G2.5** | 13.1 | M25 | M5 | 10 | 25 |
| **3G4** | 15.7 | M25 | M5 | 10 | 30 |
| **3G6** | 17.5 | M32 | M5 | 11 | 35 |
| **3G10** | 22.7 | M32 | M6 | 11 | 45 |
| **3G16** | 26.0 | M40 | M6 | 12 | 50 |
| **3G25** | 31.0 | M40 | M8 | 14 | 60 |
| **3G35** | 32.5 | M50 | M8 | 16 | 65 |
| **3G50** | 37.5 | M50 | M10 | 19 | 75 |

Gland threads, lug bolts and strip lengths are planning guides computed from the dimensions above; confirm them with the accessory manufacturer.

## 10 Comparison with Related Variants at Size 3G6

| Variant | Differs in | Outer Ø / H mm | Weight kg/km | Pull N | Current A |
|---|---|---|---|---|---|
| **This datasheet** H07BQ-F 3G 450/750 V | – | 17.5 | 353 | 270 | 53 |
| H07BQ-F 3× 450/750 V 3×6 | core configuration | 17.5 (+0%) | 353 (+0%) | 270 (+0%) | 53 (+0%) |
| H07BQ-F 4× 450/750 V 4×6 | core configuration | 19.6 (+12%) | 460 (+30%) | 360 (+33%) | 45 (-15%) |
| H07BQ-F 3G 450/750 V 3G6 | tinned vs bare copper | 17.5 (+0%) | 353 (+0%) | 270 (+0%) | 54 (+2%) |
| H07BQ-F 3G 450/750 V 3G6 | low-temperature sheath | 17.5 (+0%) | 353 (+0%) | 270 (+0%) | 53 (+0%) |
| H07BQ-F 2× 450/750 V 2×6 | core configuration | 16.3 (-7%) | 251 (-29%) | 180 (-33%) | 53 (+0%) |
| H07BQ-F 4G 450/750 V 4G6 | core configuration | 19.6 (+12%) | 460 (+30%) | 360 (+33%) | 53 (+0%) |
| H07BQ-F 450/750 V 1×6 | core configuration | 9.8 (-44%) | 116 (-67%) | 90 (-67%) | 53 (+0%) |
| H07BQ-F 5× 450/750 V 5×6 | core configuration | 21.4 (+22%) | 550 (+56%) | 450 (+67%) | 40 (-25%) |

Percentages show the change against this datasheet; where a variant does not offer the exact size, the nearest listed size is used.

## 11 Standards and Testing

| Standard | Scope |
|---|---|
| **DIN VDE 0282-10 (HD 22.10) / DIN EN 50525-2-21** | Flexible EPR/PUR cables |
| **DIN EN 50363-10-2** | Sheathing compound TMPU |
| **DIN VDE 0293-308** | Core identification |
| **DIN VDE 0295 / IEC 60228** | Conductors, class 5 |
| **DIN EN 60754-1 / -2** | Halogen content of the compounds |
| **DIN EN 60332-1-2 / IEC 60332-1-2** | Flame propagation |

### Routine and type tests

- AC voltage test on every drum length (routine test): 2.5 kV, 5 min
- Conductor resistance and checks of dimensions, insulation thickness and sheath thickness
- Continuity of conductors and protective earth
- Flame propagation test (IEC 60332-1-2) on type-test samples
- Verification of the halogen-free compounds (IEC 60754-1/-2)

**Test documentation:** every delivery is accompanied by a test certificate from FeiChun’s own laboratory. Third-party witnessed tests can be arranged at the buyer’s cost.


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The design follows DIN VDE 0282-10. This datasheet does not claim the VDE approval mark; mark or approval certificates, where required for a project, are arranged on request and apply only to the type tested.

## 12 Installation, Marking and Delivery

### Installation guidance

- Keep to the bending radii of section 04: flexing 5 × D, fixed 3 × D.
- Do not exceed the tensile load of 15 N/mm² of the copper cross-section.
- Avoid prolonged contact with hot surfaces above the rated conductor temperature.
- Cut and strip the PUR sheath with a sharp, round-blade tool.
- Use cable glands with a clamping range that matches the outer diameter.
- Store the cable dry and away from direct sunlight for long periods.

### Sheath marking

FEICHUN H07BQ-F [cross-section] 450/750 V [year] [serial no.] [metre mark]

### Packing and delivery

| | |
|---|---|
| **Drum** | Steel or fumigated wooden drums; cable ends sealed with heat-shrink caps |
| **Delivery length** | As ordered, in one continuous length without joints |
| **Lead time** | 2–3 weeks after technical approval |
| **Warranty** | At least 3 years against manufacturing defects |
| **Drum label** | Type, cross-section, length, gross/net weight, batch no., drum no. |

### Ordering information

**Order example: H07BQ-F 3G6 450/750 V** – 500 m on one drum. When requesting a quotation, state the cable type, configuration, cross-section, voltage, conductor (tinned), length per piece, required standards and installation conditions.

## 13 Certification and Quality

All cable is subject to FeiChun’s quality control, with routine testing over 100 % of the delivered length. Declarations of conformity, type-test reports and third-party tests (for example for a mine, a tunnel or a rail project) are provided per project requirement; copies of the records are available on request. FeiChun holds CE, EAC and UKCA documentation for certain product groups. Whether a certificate covers this specific construction must be confirmed with FeiChun before it is quoted in a tender.

VDE, mine-specific (for example coal-mine safety marks, MSHA) and ATEX / IECEx approvals are not implied by this datasheet. They depend on the project, the machine and the country and are arranged with the end user.

## 14 Related Datasheets and Frequently Asked Questions

Variants of this cable with a different configuration, conductor, temperature grade, screen or voltage. All datasheets are PDF files.

- H07BQ-F 3× 450/750 V – core configuration, PUR, low-temp, tinned
- H07BQ-F 4× 450/750 V – core configuration, PUR, low-temp, tinned
- H07BQ-F 3G 450/750 V – tinned vs bare copper, PUR, low-temp
- H07BQ-F 3G 450/750 V – low-temperature sheath, PUR, tinned
- H07BQ-F 2× 450/750 V – core configuration, PUR, low-temp, tinned
- H07BQ-F 4G 450/750 V – core configuration, PUR, low-temp, tinned
- H07BQ-F 450/750 V – core configuration, PUR, low-temp, tinned
- H07BQ-F 5× 450/750 V – core configuration, PUR, low-temp, tinned

Overview of all H07BQ-F datasheets: H07 Series Flexible Cables 450/750 V

### Frequently asked questions

**What is the difference between H07BQ-F and H07RN-F?**
H07BQ-F has a PUR sheath (cut- and abrasion-resistant, halogen-free); H07RN-F has a polychloroprene sheath.

**Is H07BQ-F halogen-free?**
Yes. Insulation and sheath are halogen-free compounds.

**What sizes are available for H07BQ-F 3G?**
10 sizes from 1 to 50 mm². The outer dimension of the largest size, 3G50, is 37.5 mm and the weight is about 2,380 kg/km.


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**What current can 3G10 carry?**
73 A in free air at 30 °C ambient, with the conductor at 90 °C. Other temperatures and grouping change the value; use the factors in section 04.

## 15 Trademark Notice and Intellectual Property

Cable type designations such as H07BQ-F are standardised, descriptive designations defined in DIN VDE and EN standards; they are used to state which standard this product is designed to. References to other manufacturers' trade names, where made, serve only for technical comparison; FeiChun Cables is not affiliated with them.

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