KJV
A ZETWERK COMPANY

HTLS CASABLANCA

OVERVIEW

HTLS Casablanca is a high-performance HTLS conductor with a hybrid carbon and glass fibre composite core and two layers of trapezoidal, fully annealed 1350-O aluminium wires. It operates continuously at 180 °C, raising the capacity of existing corridors while keeping sag low.

FEATURES & BENEFITS

180 °C Operation
Continuous operating temperature for higher current capacity

Low Sag
Core expansion of 1.61 × 10^{-6} /°C; transition point at 50 °C

Lower Line Losses
Trapezoidal 1350-O aluminium, 0.0954 Ω/km DC resistance at 20 °C

Lightweight
882.9 kg/km, so less load on towers and foundations

Corrosion-Free Core
Non-metallic composite core with 85 kN breaking load

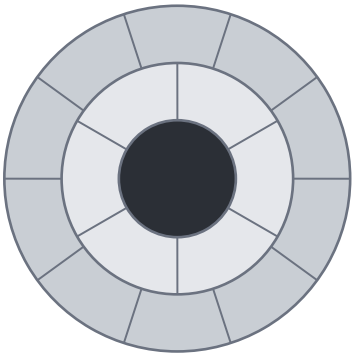
Long Lengths
2400 m standard and up to 3600 m single length, so fewer joints

APPLICATIONS

Uprating of existing transmission lines

Re-conductoring on existing towers

CROSS SECTION



- Outer layer: 10 trapezoidal Al wires
- Inner layer: 6 trapezoidal Al wires
- Composite core: Ø 7.11 mm

APPLICABLE STANDARDS

IEC 61089	ASTM B 609 B 987 · B 857	EN 50540

TECHNICAL SPECIFICATIONS

Conductor	**HTLS Casablanca**
Construction	**16 Al wires + 1 composite core**
Overall diameter	**21.00 mm**
Weight	**882.9 kg/km**
Rated strength (conductor)	**101.9 kN**
Rated strength (core)	**85 kN**
DC resistance at 20 °C	**0.0954 Ω/km**
AC resistance at max. temp.	**0.1502 Ω/km**
Max. operating temperature	**180 °C**
Rated current / steady-state temp.	**1022 A / 161.66 °C**
Transition temperature	**50 °C**
Direction of lay	**Right hand**
Core expansion coefficient	**1.61 × 10^{-6} /°C**
Modulus above transition	**112.3 GPa**
Standard length (max.)	**2400 m (3600 m)**

Values as per Guaranteed Technical Particulars, GTP No. KJV/GTP/HTLS/CASABLANCA/2024-25/01.

HTLS CASABLANCA PLUS

OVERVIEW

HTLS Casablanca Plus is a high-performance HTLS conductor with a hybrid carbon and glass fibre composite core and two layers of trapezoidal, fully annealed 1350-O aluminium wires. It operates continuously at 180 °C, raising the capacity of existing corridors while keeping sag low.

FEATURES & BENEFITS

180 °C Operation
Continuous operating temperature for higher current capacity

Low Sag
Core expansion of 1.61 × 10^{-6} /°C; transition point at 50 °C

Lower Line Losses
Trapezoidal 1350-O aluminium, 0.0954 Ω/km DC resistance at 20 °C

Lightweight
882.9 kg/km, so less load on towers and foundations

Corrosion-Free Core
Non-metallic composite core with 85 kN breaking load

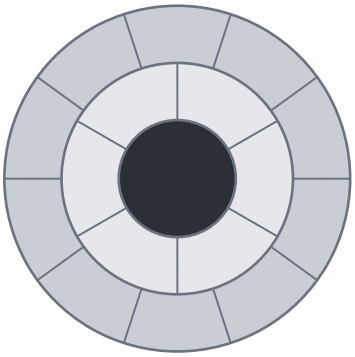
Long Lengths
2400 m standard length and up to 3600 m single length

APPLICATIONS

Uprating of existing transmission lines

Re-conductoring on existing towers

CROSS SECTION



- Outer layer: 10 trapezoidal Al wires
- Inner layer: 6 trapezoidal Al wires
- Composite core: Ø 7.11 mm

APPLICABLE STANDARDS

IEC 61089	ASTM B 609 B 857	ASTM B 987 EN 50540

TECHNICAL SPECIFICATIONS

Conductor	**HTLS Casablanca Plus**
Construction	**16 Al wires + 1 composite core**
Overall diameter	**21.00 mm**
Weight	**882.9 kg/km**
Rated strength (conductor)	**101.9 kN**
Rated strength (core)	**85 kN**
DC resistance at 20 °C	**0.0954 Ω/km**
AC resistance at max. temp.	**0.1502 Ω/km**
Max. operating temperature	**180 °C**
Rated current / steady-state temp.	**1022 A / 161.66 °C**
Transition temperature	**50 °C**
Direction of lay	**Right hand**
Core expansion coefficient	**1.61 × 10^{-6} /°C**
Modulus above transition	**112.3 GPa**
Standard length (max.)	**2400 m (3600 m)**

Values as per Guaranteed Technical Particulars, GTP No. KJV/GTP/HTLS/CASABLANCA PLUS/2025-26/01

KJV
A ZETWERK COMPANY

HTLS 468

OVERVIEW

HTLS 468 is a high-performance HTLS conductor with a carbon fibre thermoset polymer matrix composite core and two layers of trapezoidal, fully annealed 1350-O aluminium wires. With a 468.1 mm² cross-section and 180 °C continuous operation, it raises the capacity of existing corridors while keeping sag low.

FEATURES & BENEFITS

180 °C Operation
180 °C continuous and 200 °C short-term conductor temperature

Low Sag
Core expansion of 1.57 × 10⁻⁶ /°C keeps sag low above the transition temperature

High Conductivity
Minimum 63% conductivity aluminium; DC resistance 0.06852 Ω/km max.

High Strength
153.3 kN conductor UTS with a 129.8 kN carbon fibre core

Corona Performance
154 kV (rms) corona extinction voltage; RIV below 1000 µV

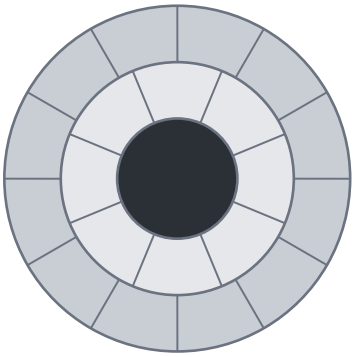
Long Lengths
2400 m standard length and up to 2520 m as a single length

APPLICATIONS

Uprating of existing transmission lines

Re-conductoring on existing towers

CROSS SECTION



- Outer layer: 12 trapezoidal Al wires
- Inner layer: 8 trapezoidal Al wires
- Carbon fibre composite core: Ø 8.75 mm

APPLICABLE STANDARDS

IEC 61089	ASTM B 233 B 609 · B 857	ASTM B 987 (core)

TECHNICAL SPECIFICATIONS

Conductor	**HTLS 468**
Construction	**20 Al (8 + 12) + 1 composite core**
Overall diameter	**25.15 mm**
Total / aluminium area	**468.1 / 408.0 mm²**
Weight	**1241.6 kg/km**
Rated strength (conductor)	**153.3 kN**
Rated strength (core)	**129.8 kN**
DC resistance at 20 °C	**0.06852 Ω/km (max.)**
Max. operating temperature	**180 °C (200 °C short-term)**
Conductor temp. at 1250 A	**159.1 °C**
Corona extinction voltage	**154 kV (rms)**
Direction of lay	**Right hand**
Core expansion coefficient	**1.57 × 10⁻⁶ /°C**
Modulus above transition	**11447.5 kg/mm²**
Standard length (max.)	**2400 m (2520 m)**

Values as per Guaranteed Technical Particulars, Specification No. CC/NT/G-COND/DOM/A04/25/10006.

HTLS DRAKE

OVERVIEW

HTLS Drake is a high-performance HTLS conductor with a hybrid carbon and glass fibre composite core and two layers of trapezoidal, fully annealed 1350-O aluminium wires (8 inner and 14 outer). It operates continuously at 180 °C, raising line capacity while keeping sag low.

FEATURES & BENEFITS

180 °C Operation
Continuous operating temperature for higher current capacity

Low Sag
Core expansion of 1.61 × 10^{-6} /°C; transition point at 48 °C

Low Line Losses
DC resistance of 0.0526 Ω/km at 20 °C

High Strength
153.8 kN conductor UTS with a 151.7 kN composite core

Thermal Margin
138.68 °C steady-state at 1520 / 1340 / 885 A, below the 180 °C limit

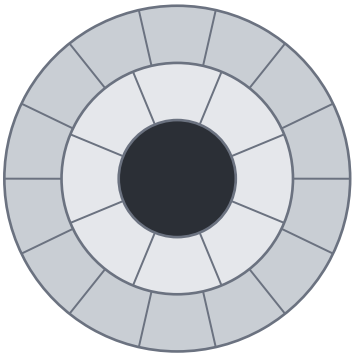
Long Lengths
2400 m standard length and up to 2500 m single length

APPLICATIONS

Uprating of existing transmission lines

Re-conductoring on existing towers

CROSS SECTION



- Outer layer: 14 trapezoidal Al wires
- Inner layer: 8 trapezoidal Al wires
- Composite core: Ø 9.53 mm

APPLICABLE STANDARDS

IEC 61089	ASTM B 233	ASTM B 987 (core)

TECHNICAL SPECIFICATIONS

Conductor	**HTLS Drake**
Construction	**22 Al (8 + 14) + 1 composite core**
Overall diameter	**28.14 mm**
Weight	**1565.6 kg/km**
Rated strength (conductor)	**153.8 kN**
Rated strength (core)	**151.7 kN**
DC resistance at 20 °C	**0.0526 Ω/km**
AC resistance at max. temp.	**0.07838 Ω/km**
Max. operating temperature	**180 °C**
Conductor temp. at rated current	**138.68 °C (1520/1340/885 A)**
Transition temperature	**48 °C**
Direction of lay	**Right hand**
Core expansion coefficient	**1.61 × 10^{-6} /°C**
Modulus above transition	**11393.5 kg/mm²**
Standard length (max.)	**2400 m (2500 m)**

Values as per Guaranteed Technical Particulars, GTP No. KJV/GTP/HTLS/DRAKE/2024-25/01.

KJV
A ZETWERK COMPANY

HTLS DOG 131

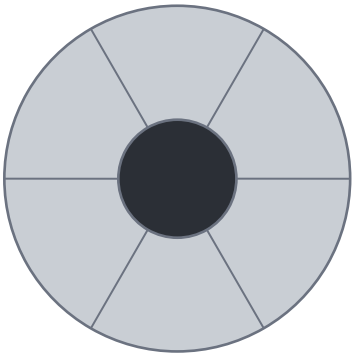
OVERVIEW

HTLS Dog 131 is a high-performance HTLS conductor with a hybrid carbon and glass fibre composite core and a single layer of six trapezoidal, fully annealed 1350-O aluminium wires. It operates continuously at 180 °C, raising line capacity while keeping sag low.

APPLICATIONS

- **Uprating of existing transmission lines**
- **Re-conductoring on existing towers**

CROSS SECTION



- Outer layer: 6 trapezoidal Al wires
- Composite core: Ø 4.83 mm

FEATURES & BENEFITS

180 °C Operation
180 °C continuous and 200 °C short-term conductor temperature

Higher Current
Carries 725 A at 180 °C, against 437 A at 75 °C

Low Sag
Core expansion of 1.61 × 10^{-6} /°C; transition point at 50 °C

Lightweight
394.3 kg/km, so less load on towers and foundations

Compact
14.15 mm overall diameter with 47.1 kN conductor UTS

Long Lengths
2400 m standard length and up to 3600 m single length

APPLICABLE STANDARDS

IEC 61089	ASTM B 609 B 857	ASTM B 987 EN 50540

TECHNICAL SPECIFICATIONS

Conductor	**HTLS Dog 131 sq mm**
Construction	**6 Al wires + 1 composite core**
Overall diameter	**14.15 mm**
Weight	**394.3 kg/km**
Rated strength (conductor)	**47.1 kN**
Rated strength (core)	**42.8 kN**
DC resistance at 20 °C	**0.2125 Ω/km**
Max. operating temperature	**180 °C (200 °C short-term)**
Current capacity at 75 °C	**437 A**
Current capacity at 180 °C	**725 A**
Transition temperature	**50 °C**
Direction of lay	**Right hand**
Core expansion coefficient	**1.61 × 10^{-6} /°C**
Modulus above transition	**117 GPa**
Standard length (max.)	**2400 m (3600 m)**

Values as per Guaranteed Technical Particulars, GTP No. KJV/GTP/HTLS HTLS/DOG 131 SQMM/2024-25/01