

**ünika®**



# **Wind Energy Cables Product Catalog**





ÜNIKA was founded in 1936 upon the directives of Atatürk, the founder and the president of modern Turkish Republic, to manufacture paper insulated cables which were strongly needed at that time since the country was constructing its infrastructure. The Name of the company was Istanbul Cable Factory at the foundation period in 1968, the name has changed to ÜNIKA ÜNİVERSAL KABLO SANAYİ VE TİC. A. Ş. with the start of its restructuring program. Today, ÜNIKA manufactures mainly PVC, Rubber and Halogen-Free Marine Cables, Off-shore Cables, Onshore for OG&Petrochemical Industry, Heavy Duty Flexible Rubber Cables, Fire Resistant, Flame Retardant, Low Smoke Emission and Halogen-Free Power and Installation Cables, Mining Cables, Airfield Ground Lighting Cables, Railways Cables and further Special Cables in compliance with the national and international standards.

ÜNIKA owns Type Approval Certificates for marine cables from TL, BV, LR, GL, DNV, ABS, RMRS, RINA and NK. Furthermore it has product certificates for Rubber and PVC insulated power cables awarded by Turkish Standards Institution and MGM ALSz certificate for Mining cables.

ÜNIKA owns ABS and DNS certificates for offshore cables and FAA certificate for Airfield Lighting.



## Committed to Quality

At ÜNIKA, quality is an intrinsic part of our operations. Our comprehensive product and System certifications not only are mandatory requirements for our industry, but our Commitment to continuous and growing quality.



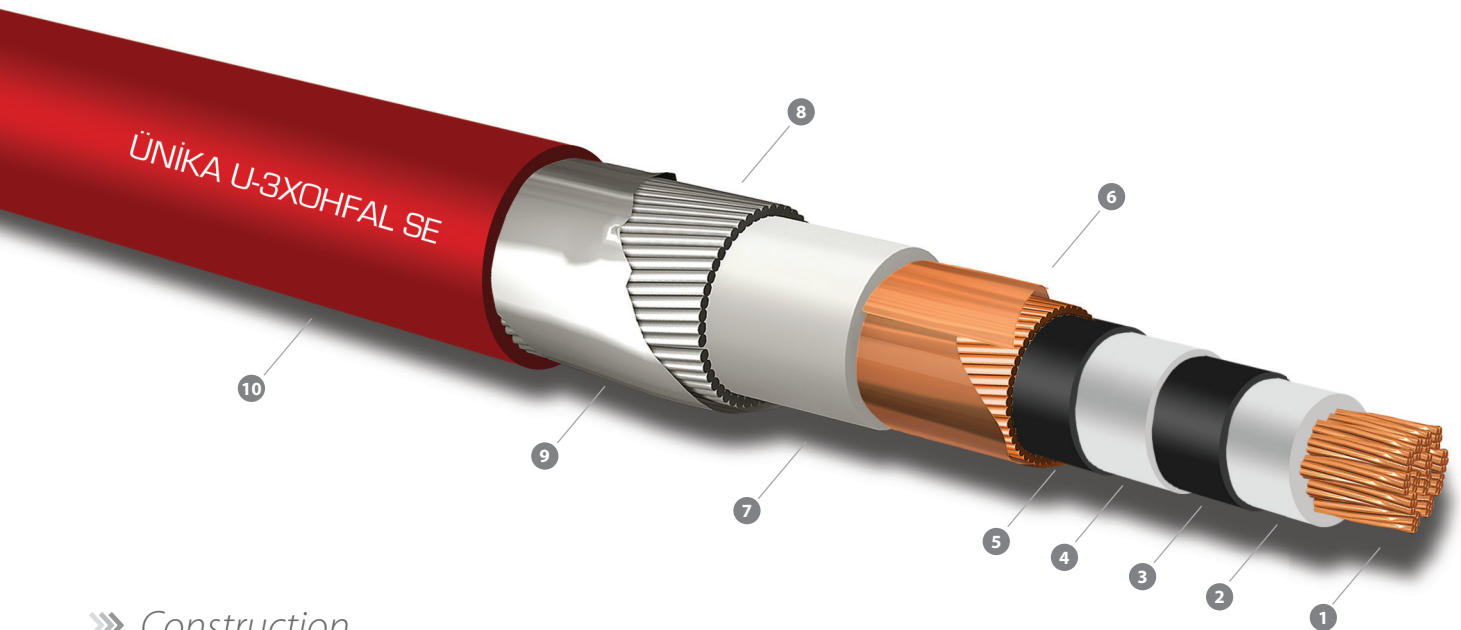
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# U-3XOHFAL SE

## Onshore MV power cables

IEC 60502-2



### »» Construction

- 1 Conductor** : Annealed circular stranded or compact copper wires complying with IEC 60228 Class 2
- 2 Stress Control** : Extruded semiconductive material
- 3 Insulation** : Cross-linked polyethylene, XLPE in accordance with IEC 60502-2
- 4 Stress Control** : Extruded semiconductive material
- 5 Tape** : Semiconductive tape
- 6 Tape & Wire** : Copper tape and Copper wire
- 7 Bedding** : Halogen free filler
- 8 Armour** : Aluminium wire in accordance with IEC 60502-1
- 9 Tape** : Polyester or Aluminium wrapping tape
- 10 Outer Jacket** : Low smoke, zero halogen, UV, anti-termite compound ST8 in accordance with IEC 60502-1

### »» Technical Features

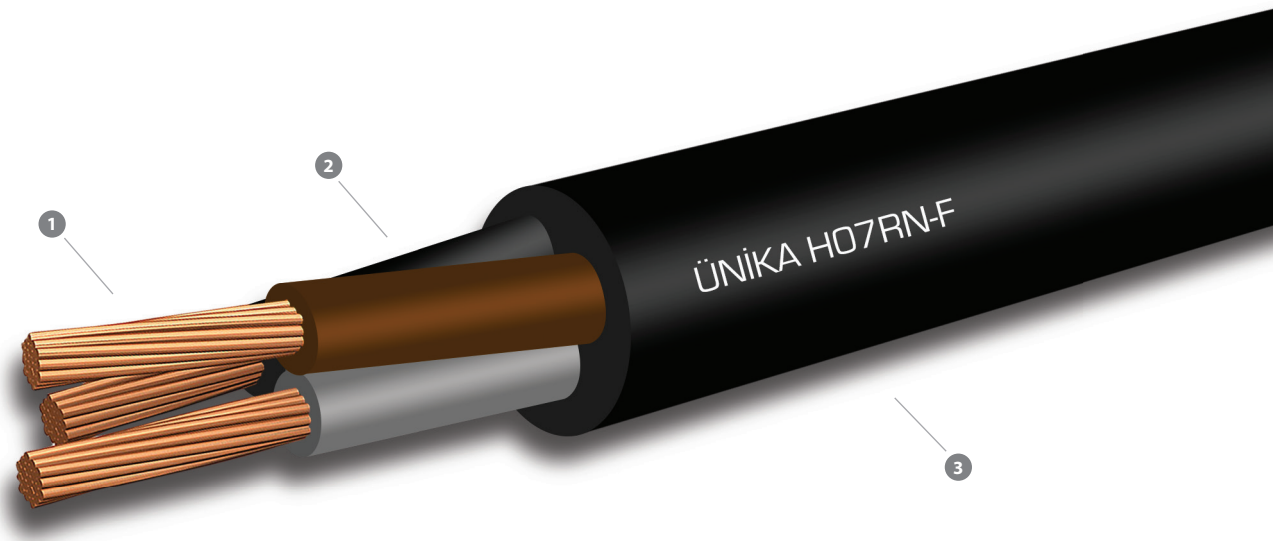
- Operating Temperature** : -40/+90 °C
- Rated Voltage** : 18/30 (36) kV
- Design Guideline** : IEC 60502-2
- Halogen Free Properties** : IEC 60754-1 & IEC 60754-2
- Low Smoke Emission** : IEC 61034-1 & IEC 61034-2
- Flame Retardancy** : IEC 60332-1
- Flame Propagation** : IEC 60332-3-22 Cat. A
- Cold Bend** : CSA C22.2 No. 0.3-09 (-40°C )
- Cold Impact** : CSA C22.2 No. 0.3-09 (-35°C )

**Application** : Fixed installation for medium power distribution systems or special applications.

# H07RN-F

## Heavy duty rubber cables

TS EN 50525-2-21



### »» Construction

- 1 **Conductor** : Annealed bare stranded copper in accordance with EN 60228 Class 5
- 2 **Insulation** : Cross-linked elastomeric compound, type EI 4 in accordance with EN 50363-1
- 3 **Outer Jacket** : Cross-linked elastomeric compound, type EM 2 in accordance with EN 50363-2-1

### »» Technical Features

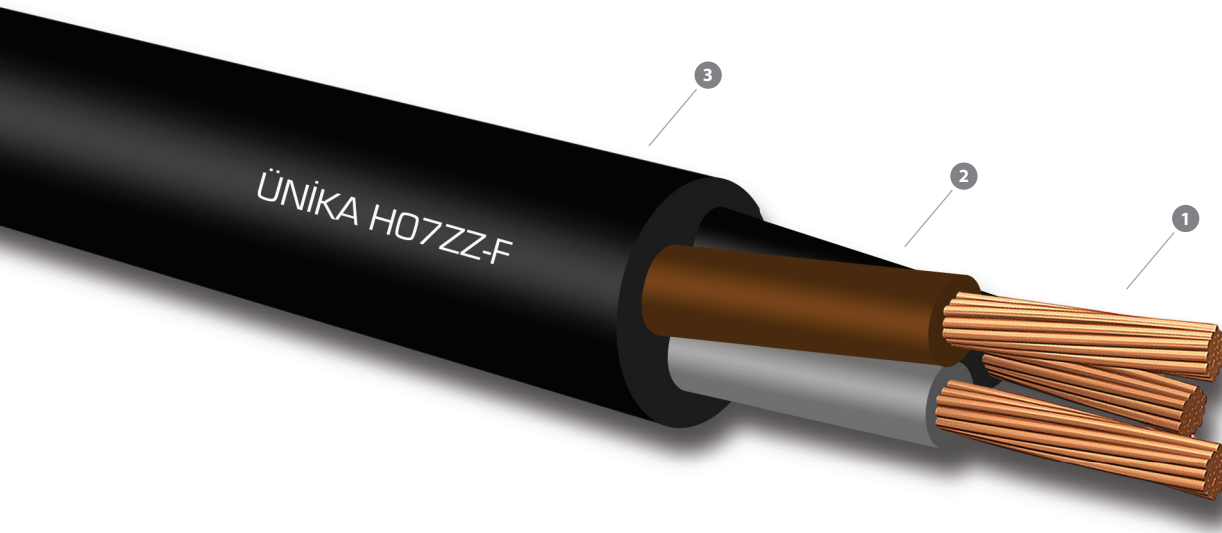
- Operating Temperature** : -25/60 °C
- Rated Voltage** : 450/750 V
- Design Guideline** : TSE EN 50525-2-21
- Flame Retardancy** : IEC 60332-1

**Application :** In dry, damp and wet location, also outdoors, for heavy equipment and tools, on construction sites in industry, open cast and deep mining quarry with heavy mechanical stresses also in railway systems and wind energy applications. Agricultural equipment and systems e.t.c. and flame retardant, oil, fuel oil and water resistant .

# H07ZZ-F

## Heavy duty rubber cables

*EN 50525-3-21, Halogen Free, Flame Retardant, Low Smoke*



### »» Construction

- 1 **Conductor** : Annealed bare stranded copper in accordance with EN 60228 Class 5
- 2 **Insulation** : Cross-linked elastomeric compound, type EI 8 in accordance with EN 50363-5
- 3 **Outer Jacket** : Cross-linked elastomeric compound, type EM 8 in accordance with EN 50363-6

### »» Technical Features

|                                |  |
|--------------------------------|--|
| <b>Operating Temperature</b>   | : -15/90 °C                            |
| <b>Rated Voltage</b>           | : 450/750 V                            |
| <b>Design Guideline</b>        | : TSE EN 50525-3-21                    |
| <b>Halogen Free Properties</b> | : IEC 60754-1, IEC 60754-2, EN 50525-1 |
| <b>Low Smoke Emission</b>      | : IEC 61034-1 & IEC 61034-2            |
| <b>Flame Retardancy</b>        | : IEC 60332-1                          |
| <b>Flame Propagation</b>       | : IEC 60332-3-22 Cat. A                |

**Application** : These cable are used for installation inside buildings and in free air. Particularly designed for applications, where in the case of fire only small quantities of smoke and corrosive gases are allowed.



# U-2XOHF

## Power cables

IEC 60502-1, CU/XLPE/HFFR-F/LS0H



### »» Construction

- 1 **Conductor** : Annealed bare stranded copper in accordance with IEC 60228 Class 5 or CL2
- 2 **Insulation** : Cross-linked polyethylene, XLPE in accordance with IEC 60502-1
- 3 **Bedding** : Halogen-free compound
- 4 **Outer Jacket** : Halogen-free compound ST8 in accordance with IEC 60502-1

### »» Technical Features

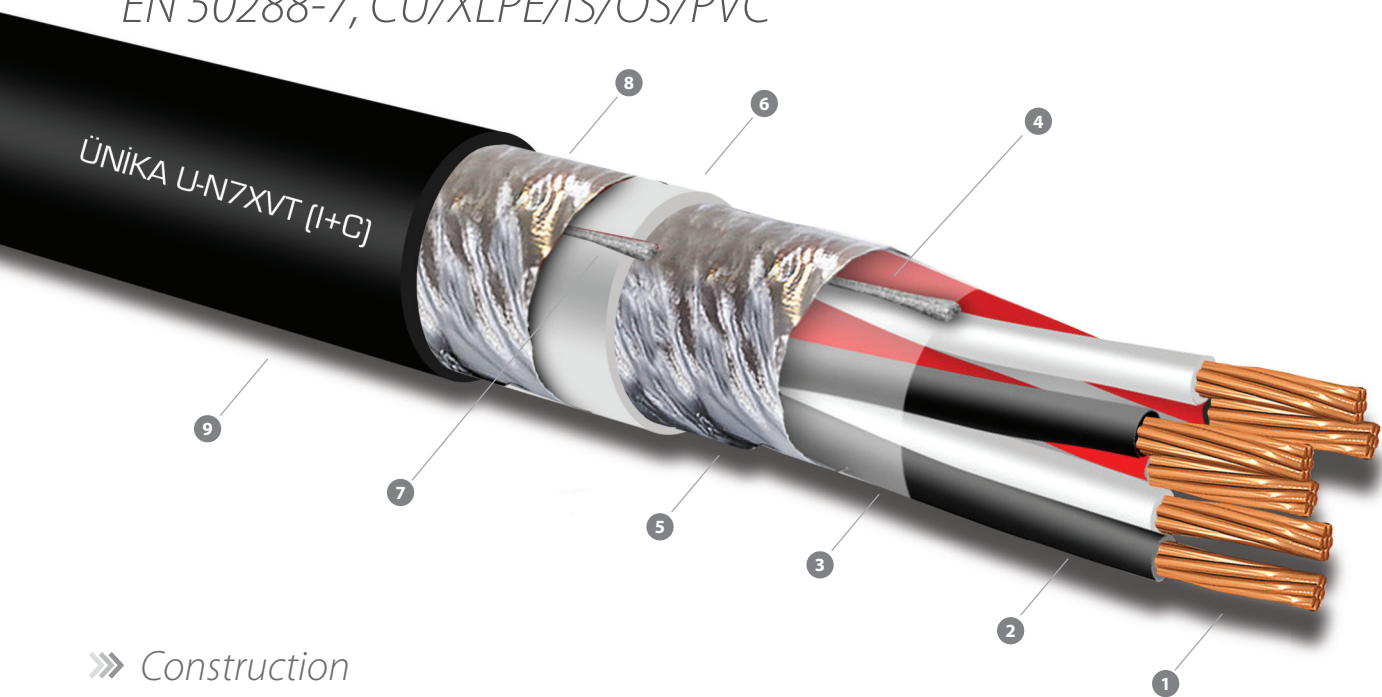
|                                |                                   |
|--------------------------------|-----------------------------------|
| <b>Operating Temperature</b>   | : -40/90 °C                       |
| <b>Rated Voltage</b>           | : 0,6/1 kV                        |
| <b>Design Guideline</b>        | : IEC 60502-1                     |
| <b>Halogen Free Properties</b> | : IEC 60754-1 & IEC 60754-2       |
| <b>Low Smoke Emission</b>      | : IEC 61034-1 & IEC 61034-2       |
| <b>Flame Retardancy</b>        | : IEC 60332-1                     |
| <b>Flame Propagation</b>       | : IEC 60332-3-22 Cat. A           |
| <b>Cold Bend</b>               | : CSA C22.2 No. 0.3-09 ( -40 °C ) |
| <b>Cold Impact</b>             | : CSA C22.2 No. 0.3-09 ( -35 °C ) |

**Application** : Fixed installation for power, control and lighting in safe areas, emergency, critical oil and gas onshore industrial and wind energy plants.

# U-N7XVT (I+C)

## Communication and control cables

EN 50288-7, CU/XLPE/IS/OS/PVC



### »» Construction

- 1 **Conductor** : Annealed bare or tinned stranded copper in accordance with IEC 60228 Class 5 or CL2
- 2 **Insulation** : Cross-linked polyethylene, XLPE in accordance with EN 50290-2-24
- 3 **Tape** : Polyester tape
- 4 **Wire** : Tinned copper drain wire
- 5 **Tape** : Metal coated polyester tape
- 6 **Tape** : Polyester tape
- 7 **Wire** : Tinned copper drain wire
- 8 **Tape** : Metal coated polyester tape
- 9 **Outer Jacket** : PVC compound, TM52 in accordance with EN 50290-2-22

### »» Technical Features

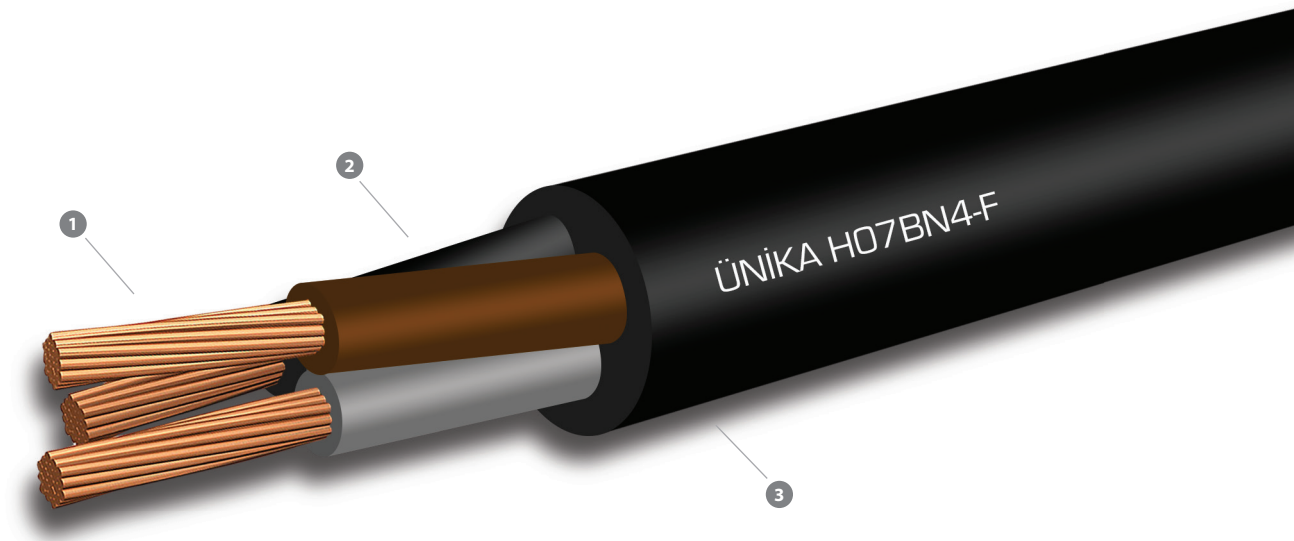
- Operating Temperature** : -15/90 °C
- Rated Voltage** : 300/500 V
- Design Guideline** : EN 50288-7
- Flame Retardancy** : IEC 60332-1

**Application :** These cables are used for transmission of analogue and digital signals in instrument and control systems at chemistry and petrochemistry industry plants, power and wind energy plants, natural gas and petroleum plants, etc...

# H07BN4-F

## Rubber insulated cables

TS EN 50525-2-21 : 2011



### »» Construction

- 1 **Conductor** : Annealed bare stranded copper in accordance with IEC 60228 class 5
- 2 **Insulation** : Cross-linked type EI7 rubber compound in accordance with EN 50363-1
- 3 **Outer Jacket** : Cross-linked type EM7 rubber compound in accordance with EN 50363-2-1

### »» Technical Features

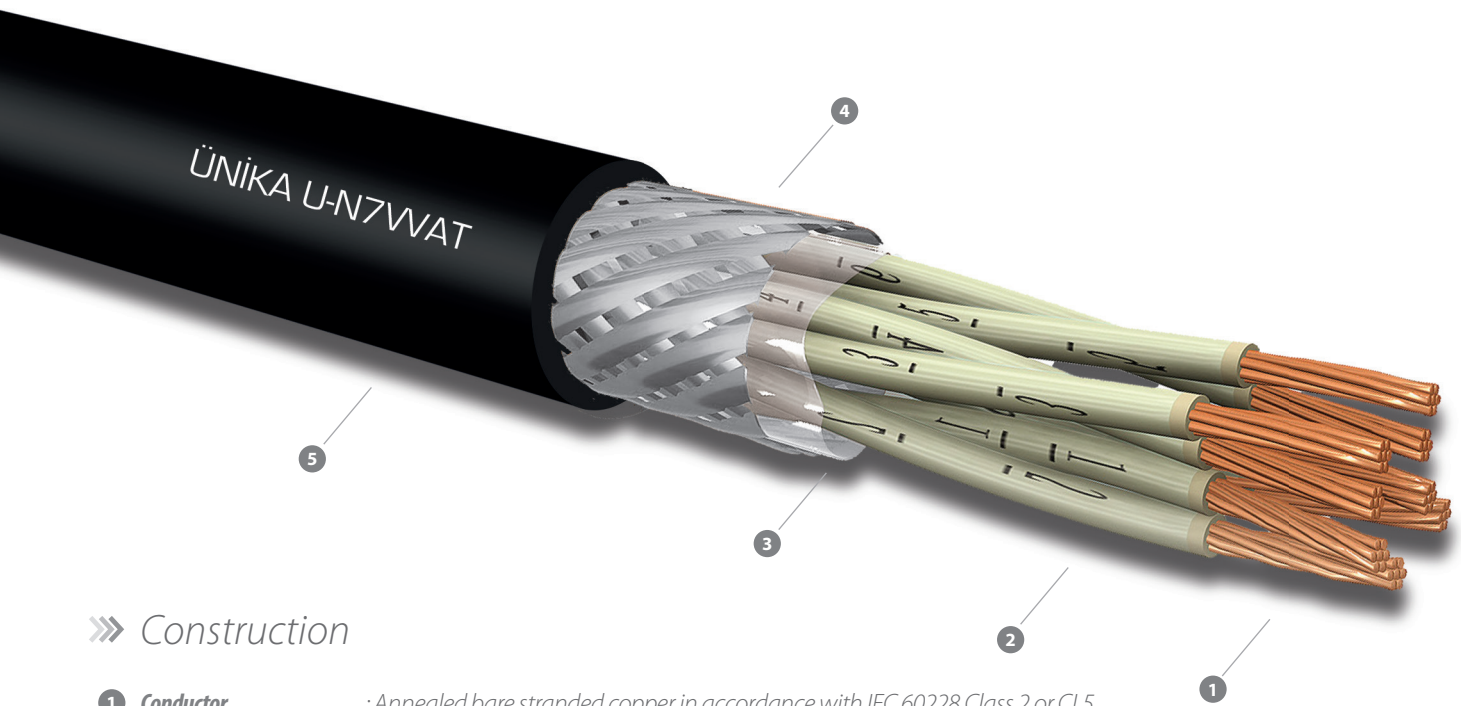
- Operating Temperature** : -25/90 °C
- Rated Voltage** : 450/750 kV
- Min Bending Radius** : Outer Diameter x 6
- Design Guideline** : TS EN 50525-2-21
- Flame Retardancy** : IEC 60332-1

**Application** : In dry, damp and wet location, also outdoors, for heavy equipment and tools, on construction sites in industry, open cast and deep mining quarry with heavy mechanical stresses in also railway systems. Agricultural equipment and systems e.t.c. and flame retardant, oil, fuel oil and water resistant.

# U-N7WAT

## Communication and control cables

CU/PVC/TCUB/PVC, BS EN 50288-7



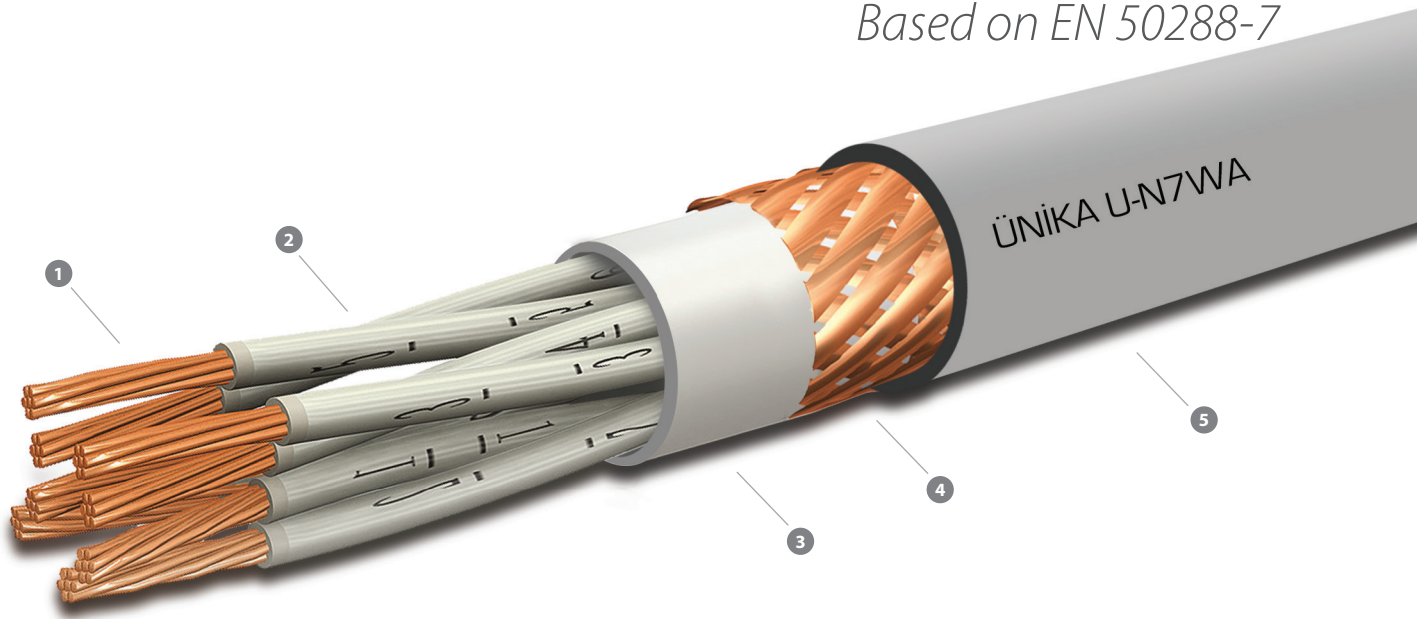
### »» Construction

- |                       |   |
|-----------------------|---|
| 1 <b>Conductor</b>    | : Annealed bare stranded copper in accordance with IEC 60228 Class 2 or CL5 |
| 2 <b>Insulation</b>   | : PVC in accordance with EN 50290-2-21                                      |
| 3 <b>Tape</b>         | : Polyester tape  |
| 4 <b>Armour</b>       | : Tinned copper wire braid (Min. %85 coverage)                              |
| 5 <b>Outer Jacket</b> | : PVC extruded compound, SHF1 in accordance with EN 50290-2-22              |

### »» Technical Features

- |                              |                 |
|------------------------------|-----------------|
| <b>Operating Temperature</b> | : -15/70 °C     |
| <b>Rated Voltage</b>         | : 300/500 V     |
| <b>Design Guideline</b>      | : BS EN 50288-7 |
| <b>Flame Retardancy</b>      | : IEC 60332-1   |

**Application** : Fixed installation for power, control and lighting in both safe and emergency areas.  
Also used in critical onshore, offshore and wind energy applications.



### »» Construction

- ① **Conductor** : Annealed bare stranded copper in accordance with IEC 60228 Class 5
- ② **Insulation** : PVC, PVC/A in accordance with IEC 60502-1
- ③ **Bedding** : PVC compound, TM52 in accordance with EN 50290-2-22
- ④ **Armour** : Bare copper wire braid in accordance with IEC 60092-350 (Min. %85 Coverage)
- ⑤ **Outer Jacket** : PVC compound, TM52 in accordance with EN 50290-2-22

### »» Technical Features

**Max. Operating Temperature** : 70 °C

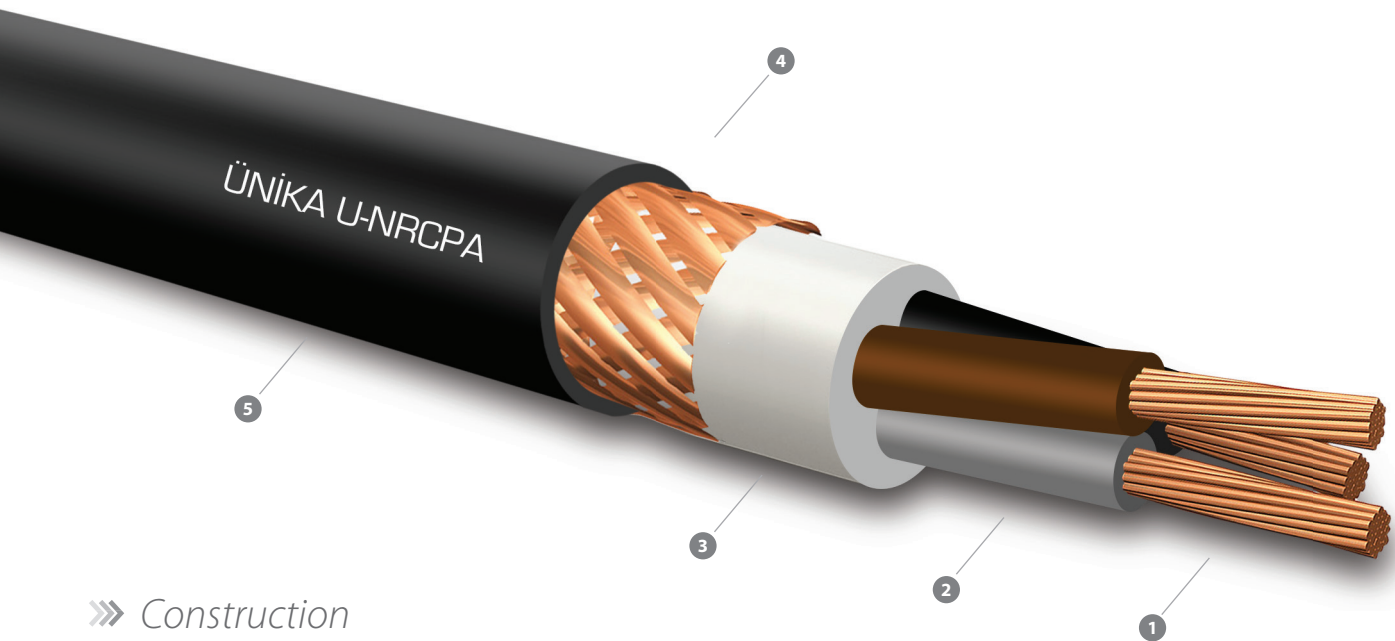
**Rated Voltage** : 500 V

**Design Guideline** : Based on EN 50288-7

**Application** : Fixed installation for power, control and lighting in both safe areas, emergency and critical offshore, marine and wind energy applications.

# U-NRCPA

Special rubber cables  
*Adapted to TS EN 50525-2-21*



## »» Construction

- 1 **Conductor** : Bare stranded copper in accordance with IEC 60228 Class 5
- 2 **Insulation** : Cross-linked elastomeric compound, Type EI 4 to EN 50363-1
- 3 **Tape** : Rubber compound (Except for 1 core, Use Polyester tape separator)
- 4 **Armour** : Copper wire braid min. % 85 coverage
- 5 **Outer Jacket** : Cross-linked elastomeric compound EM 2 to EN 50363-2-1

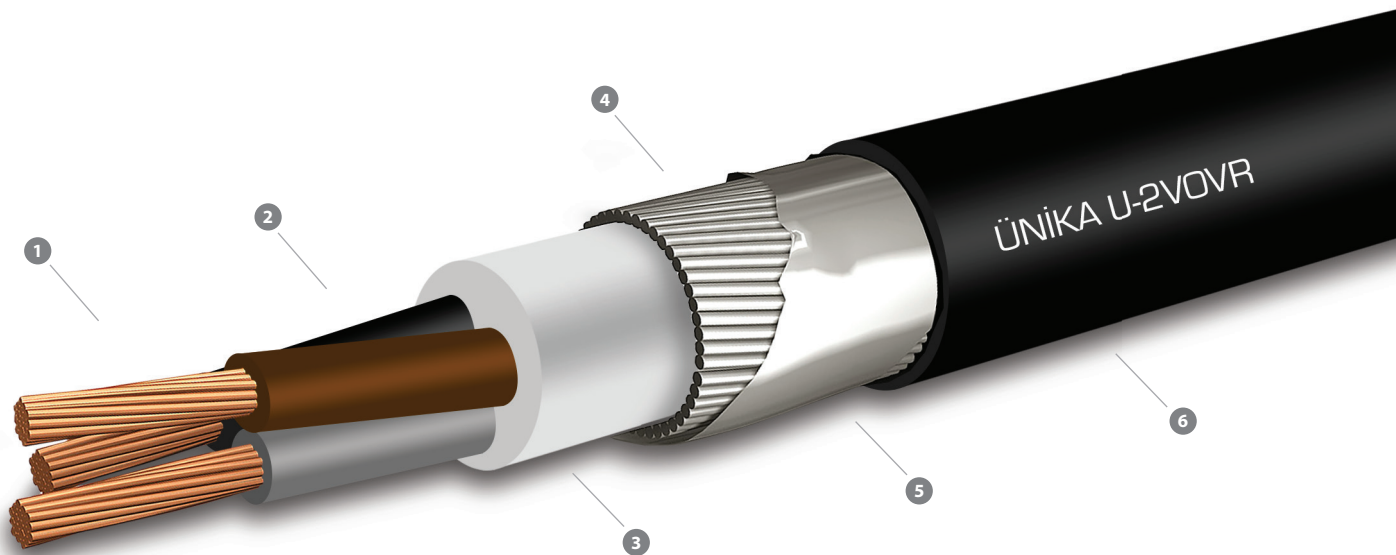
## »» Technical Features

**Operating Temperature** : -25/60 °C  
**Rated Voltage** : 450/750 V  
**Test Voltage** : 2500V  
**Bending Radius** : 4 x Outer Diameter

**Design Guideline** : Base on TS EN 50525-2-21  
**Flame Retardancy** : IEC 60332-1  
**Impact Test** : IEC 60811-1-4 (-25 °C)

**Application** : In dry, damp and wet locations, also outdoors, for heavy equipment and tools, on construction sites in industry, open cast and deep mining quarry with heavy mechanical stresses in also railway systems. Agricultural equipment and systems, wind energy applications etc..

## Onshore power cables CU/PVC/PVC-F/GSWA/PVC, IEC 60502-1



### »» Construction

- ① **Conductor** : Annealed circular stranded or compact copper wires complying with IEC 60228 Class 2
- ② **Insulation** : Polyvinyl chloride, PVC/A in accordance with IEC 60502-1
- ③ **Bedding** : Polyvinyl chloride (PVC) compound
- ④ **Armour** : Galvanised Steel wire in accordance with IEC 60502-1
- ⑤ **Tape** : Polyester or steel wrapping tape
- ⑥ **Outer Jacket** : Polyvinyl chloride (PVC) compound ST2 in accordance with IEC 60502-1

### »» Technical Features

**Max. Operating Temperature** : -15/70 °C

**Rated Voltage** : 0,6/1 kV

**Design Guide** : IEC 60502-1

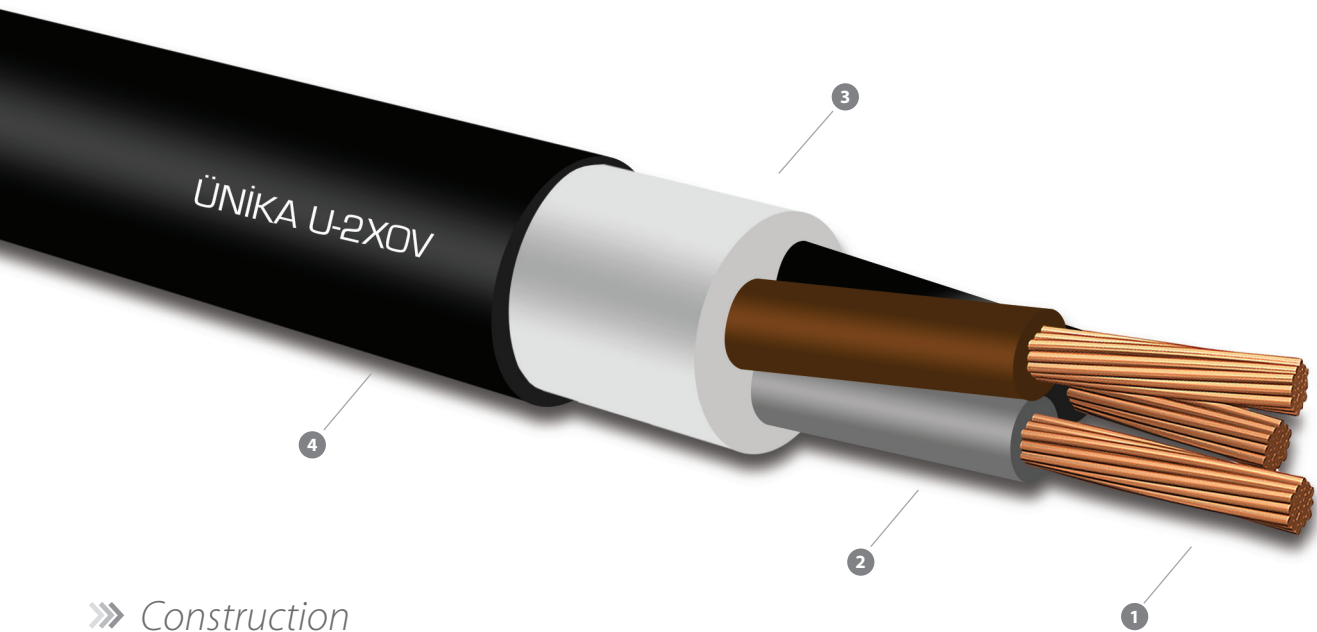
**Flame Retardancy** : IEC 60332-1

**Application** : Fixed installation for power, control and lighting in safe areas, emergency, critical oil and gas, industrial and wind energy plants.

# U-2XOV

## Onshore cables

CU/XLPE/F/ST2, IEC 60502-1



### »» Construction

- 1 **Conductor** : Bare stranded or compact copper in accordance with IEC 60228 Class 2
- 2 **Insulation** : Cross-linked polyethylene, XLPE in accordance with IEC 60502-1
- 3 **Bedding** : Extruded filler compound
- 4 **Outer Jacket** : PVC, ST2 compound in accordance with IEC 60502-1

### »» Technical Features

**Operating Temperature** : -40/90 °C  
**Rated Voltage** : 0,6/1 kV

**Design Guide** : IEC 60502-1  
**Flame Retardancy** : IEC 60332-1  
**Flame Propagation** : IEC 60332-3-24 CAT.C

**Application** : Fixed installation for power, control and lighting in safe areas, emergency and critical onshore and wind energy applications.



# U-2VOV

## Onshore cables CU/PVC/A/PVC-F/PVC, IEC 60502-1



### »» Construction

- ① **Conductor** : Annealed circular stranded or compact copper wires complying with IEC 60228 Class 2
- ② **Insulation** : PVC/A in accordance with IEC 60502-1
- ③ **Bedding** : PVC extruded compound (not one core)
- ④ **Outer Jacket** : PVC, ST2 compound in accordance with IEC 60502-1

### »» Technical Features

**Max. Operating Temperature** : -25/70 °C

**Rated Voltage** : 0,6/1 kV

**Design Guide** : IEC 60502-1

**Flame Retardancy** : IEC 60332-1

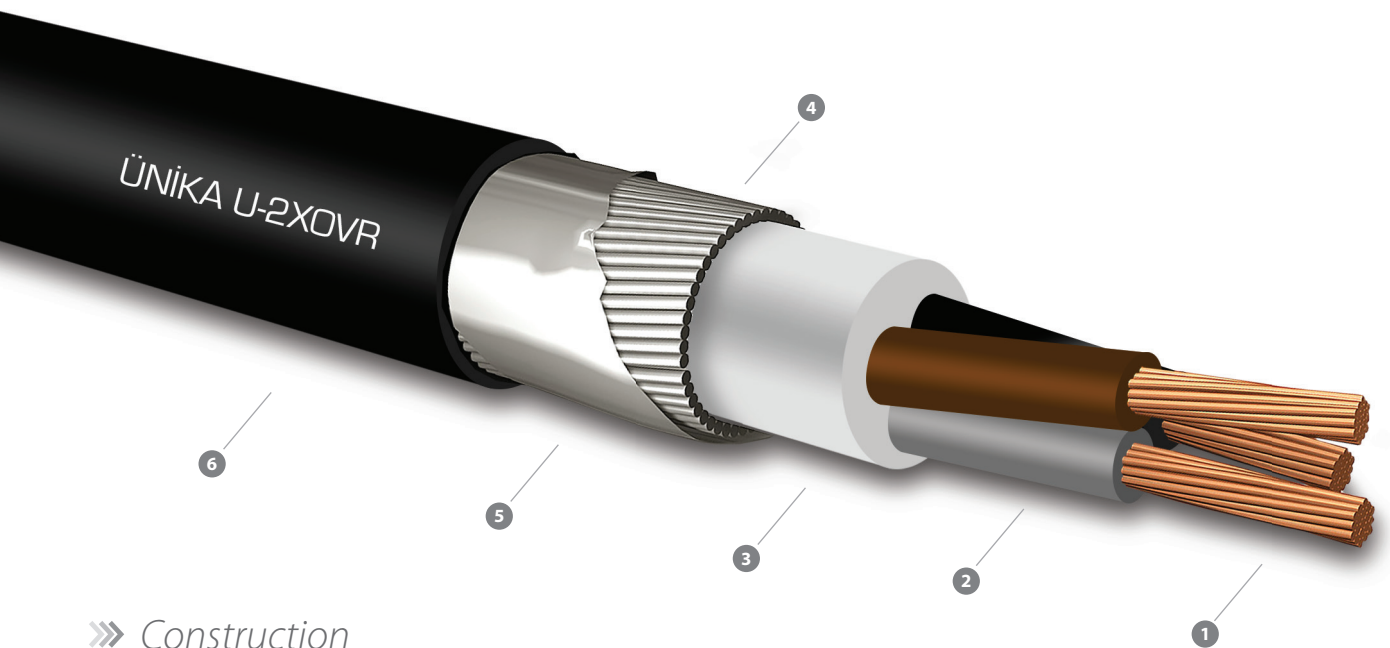
**Flame Propagation** : IEC 60332-3-24 CAT.C

**Application** : Fixed installation for power, control and lighting in safe areas, emergency and critical onshore and wind energy applications.

# U-2XOVR

## Onshore power cables

CU/XLPE/PVC-F/GSWA/PVC, IEC 60502-1



### »» Construction

- 1 **Conductor** : Annealed circular stranded or compact copper wires complying with IEC 60228 Class 2
- 2 **Insulation** : Cross-linked polyethylene, XLPE in accordance with IEC 60502-1
- 3 **Filler** : Flame Reterdant compound
- 4 **Armour** : Galvanised Steel wire in accordance with IEC 60502-1
- 5 **Tape** : Polyester or steel wrapping tape
- 6 **Outer Jacket** : Polyvinyl chloride (PVC) compound ST2 in accordance with IEC 60502-1

### »» Technical Features

**Operating Temperature** : -40/90 °C  
**Rated Voltage** : 0,6/1 kV

**Design Guide** : IEC 60502-1  
**Flame Retardancy** : IEC 60332-1  
**Flame Propagation** : IEC 60332-3-22 CAT. A

**Application** : Fixed installation for power, control and lighting in safe areas, emergency, critical oil and gas onshore industrial plants.

# Various Applications



The logo for Unika, featuring the word "Unika" in a bold, blue, sans-serif font with a registered trademark symbol (®) to the right. The letters "U" and "i" have small blue triangles above them.

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