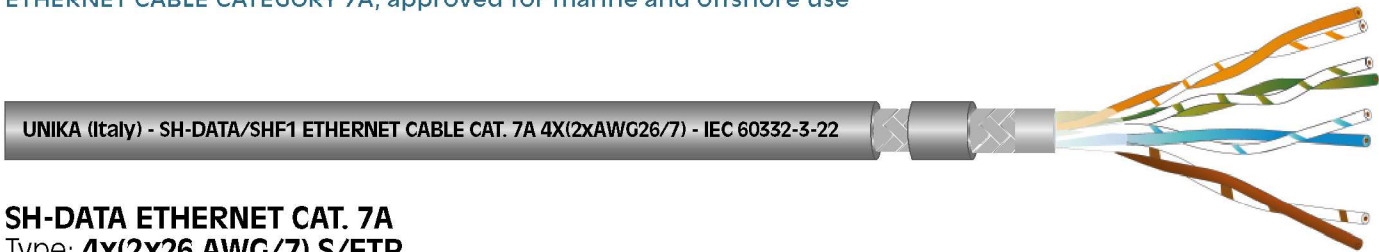


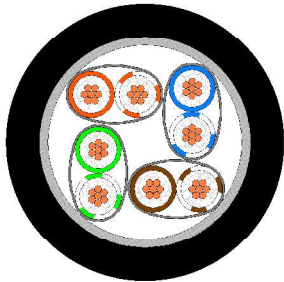
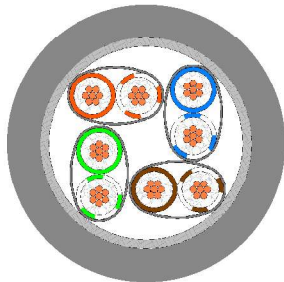
# SH-DATA ETHERNET

CAVI ETHERNET CATEGORIA 7A, approvati per uso navale e offshore  
ETHERNET CABLE CATEGORY 7A, approved for marine and offshore use



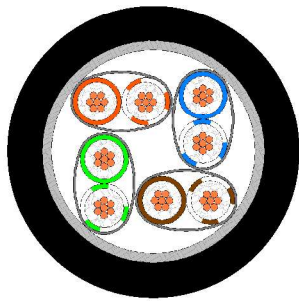
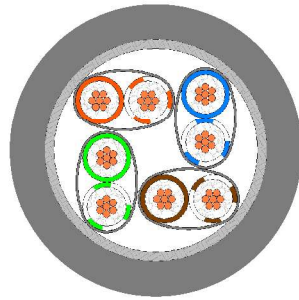
## SH-DATA ETHERNET CAT. 7A Type: 4x(2x26 AWG/7) S/FTP

|                                           | Dati tecnici                                                                                                                                                                                                        | Technical data                                                                                                                                                                                           |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Condotto<br>Conductor                     | fil di rame rosso – 26 AWG/7 (0,14 mm²)                                                                                                                                                                             | stranded bare copper wire – 26 AWG/7 (0,14 mm²)                                                                                                                                                          |
| Isolamento<br>Insulation                  | polietilene espanso secondo EN 50290-2-23 - diametro nominale Ø 1,00 mm                                                                                                                                             | foam-skin polyethylene according to EN 50290-2-23 – nom Ø 1,05 mm                                                                                                                                        |
| Colori delle coppie<br>Pair colours       | bianco/blu-blu ÷ bianco/arancio-arancio ÷ bianco/verde-verde ÷ bianco/marrone-marrone                                                                                                                               | white/blue-blue ÷ white/orange-orange ÷ white/green-green ÷ white/brown-brown                                                                                                                            |
| Schermo sulle coppie<br>Pair screen       | nastro alluminio/poliestere (alluminio verso l'esterno)                                                                                                                                                             | aluminium/polyester tape (aluminium surface outside)                                                                                                                                                     |
| Riunitura<br>assembling                   | coppie schermate riunite                                                                                                                                                                                            | shielded pairs stranded together                                                                                                                                                                         |
| Schermo totale<br>Overall shield          | treccia di rame stagnato con copertura >85%                                                                                                                                                                         | tinned copper braid 85% coverage                                                                                                                                                                         |
| Guaina esterna<br>Outer jacket            | SHF1 compound in accordo alla IEC 60092-360.<br>Colore: GRIGIO                                                                                                                                                      | SHF1 compound according to IEC 60092-360.<br>Colour: GREY                                                                                                                                                |
|                                           | SHF2 compound in accordo alla IEC 60092-360.<br>Colore: NERO                                                                                                                                                        | SHF2 compound according to IEC 60092-360.<br>Colour: BLACK                                                                                                                                               |
| Comportamento al fuoco<br>Fire behaviour  | IEC 60332-3-22 non propagante il fuoco<br>IEC 60332-1-2 non propagante la fiamma<br>IEC 60754-1 assenza di alogeni<br>IEC 60754-2 acidità dei fumi<br>IEC 60684-2 contenuto di fluoro<br>IEC 61034 densità dei fumi | IEC 60332-3-22 not fire propagation<br>IEC 60332-1-2 not flame propagation<br>IEC 60754-1 halogen content<br>IEC 60754-2 pH and conductivity<br>IEC 60684-2 fluorine content<br>IEC 61034 smoke emission |
| Resistenza chimica<br>Chemical resistance | Versione con SHF1: resistente ai raggi UV secondo UL 758 (protezione raccomandata in caso di contatto con acqua salata o nebulizzazione)                                                                            | SHF1 version: UV resistant according to UL 758 (protection recommended in case of direct contact with salty water or nebulization)                                                                       |
|                                           | Versione con SHF2: resistente ai raggi UV secondo UL 758, resistente all'olio secondo IEC 60092-360 tab. 9-10, acqua salata, agenti atmosferici                                                                     | SHF2 version: UV resistant according to UL 758, oil resistant according to IEC 60092-360 tab. 9-10, salty water, weathering                                                                              |
| Marcatura<br>Marking                      | Code <b>NP902AH</b> for <b>SHF1 version</b> : UNIKA (Italy) SH-DATA/ SHF1 ETHERNET CABLE CAT.7A (4x2xAWG26/7) - IEC 60332-3-22 - traceability code                                                                  |                                                                                                                                                                                                          |
|                                           | Code <b>NP902A</b> for <b>SHF2 version</b> : UNIKA (Italy) SH-DATA/ SHF2 ETHERNET CABLE CAT.7A (4x2xAWG26/7) - IEC 60332-3-22 - traceability code                                                                   |                                                                                                                                                                                                          |



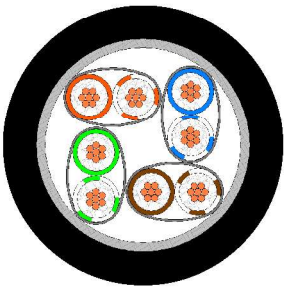
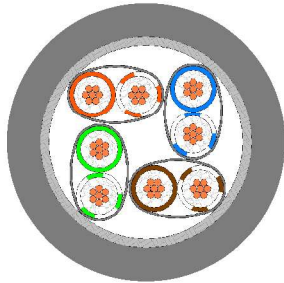
## SH-DATA ETHERNET CAT. 7A Type: 4x(2x24 AWG/7) S/FTP

|                                           | Dati tecnici                                                                                                                                                                                                        | Technical data                                                                                                                                                                                           |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Condotto<br>Conductor                     | fil di rame rosso – 24 AWG/7 (0,22 mm²)                                                                                                                                                                             | stranded bare copper wire – 24 AWG/7 (0,22 mm²)                                                                                                                                                          |
| Isolamento<br>Insulation                  | polietilene espanso secondo EN 50290-2-23 - diametro nominale Ø 1,40 mm                                                                                                                                             | foam-skin polyethylene according to EN 50290-2-23 – nom. Ø 1,40 mm                                                                                                                                       |
| Colori delle coppie<br>Pair colours       | bianco/blu-blu ÷ bianco/arancio-arancio ÷ bianco/verde-verde ÷ bianco/marrone-marrone                                                                                                                               | white/blue-blue ÷ white/orange-orange ÷ white/green-green ÷ white/brown-brown                                                                                                                            |
| Schermo sulle coppie<br>Pair screen       | nastro alluminio/poliestere (alluminio verso l'esterno)                                                                                                                                                             | aluminium/polyester tape (outside aluminium surface)                                                                                                                                                     |
| Riunitura<br>assembling                   | coppie schermate riunite                                                                                                                                                                                            | shielded pairs stranded together                                                                                                                                                                         |
| Schermo totale<br>Overall shield          | treccia di rame stagnato con copertura >85%                                                                                                                                                                         | tinned copper braid 85% coverage                                                                                                                                                                         |
| Guaina esterna<br>Outer jacket            | SHF1 compound in accordo alla IEC 60092-360.<br>Colore: GRIGIO                                                                                                                                                      | SHF1 compound according to IEC 60092-360.<br>Colour: GREY                                                                                                                                                |
|                                           | SHF2 compound in accordo alla IEC 60092-360.<br>Colore: NERO                                                                                                                                                        | SHF2 compound according to IEC 60092-360.<br>Colour: BLACK                                                                                                                                               |
| Comportamento al fuoco<br>Fire behaviour  | IEC 60332-3-22 non propagante il fuoco<br>IEC 60332-1-2 non propagante la fiamma<br>IEC 60754-1 assenza di alogeni<br>IEC 60754-2 acidità dei fumi<br>IEC 60684-2 contenuto di fluoro<br>IEC 61034 densità dei fumi | IEC 60332-3-22 not fire propagation<br>IEC 60332-1-2 not flame propagation<br>IEC 60754-1 halogen content<br>IEC 60754-2 pH and conductivity<br>IEC 60684-2 fluorine content<br>IEC 61034 smoke emission |
| Resistenza chimica<br>Chemical resistance | Versione con SHF1: resistente ai raggi UV secondo UL 758 (protezione raccomandata in caso di contatto con acqua salata o nebulizzazione)                                                                            | SHF1 version: UV resistant according to UL 758 (protection recommended in case of direct contact with salty water or nebulization)                                                                       |
|                                           | Versione con SHF2: resistente ai raggi UV secondo UL 758, resistente all'olio secondo IEC 60092-360 tab. 9-10, acqua salata, agenti atmosferici                                                                     | SHF2 version: UV resistant according to UL 758, oil resistant according to IEC 60092-360 tab. 9-10, salty water, weathering                                                                              |
| Marcatura<br>Marking                      | Code <b>NP902BH</b> for <b>SHF1 version</b> : UNIKA (Italy) SH-DATA/ SHF1 ETHERNET CABLE CAT.7A (4x2xAWG24/7) - IEC 60332-3-22 - traceability code                                                                  |                                                                                                                                                                                                          |
|                                           | Code <b>NP902B</b> for <b>SHF2 version</b> : UNIKA (Italy) SH-DATA/ SHF2 ETHERNET CABLE CAT.7A (4x2xAWG24/7) - IEC 60332-3-22 - traceability code                                                                   |                                                                                                                                                                                                          |



SH-DATA ETHERNET CAT. 7A  
Type: 4x(2x23AWG/7) S/FT

|                                           | Dati tecnici                                                                                                                                                                                                        | Technical data                                                                                                                                                                                           |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connettore<br>Conductor                   | fil di rame rosso - 23 AWG/7 (0,26 mm²)                                                                                                                                                                             | stranded bare copper wire – 23 AWG/7 (0,26 mm²)                                                                                                                                                          |
| Isolamento<br>Insulation                  | polietilene espanso secondo EN 50290-2-23 - diametro nominale Ø 1,50 mm                                                                                                                                             | foam-skin polyethylene according to EN 50290-2-23 – nom Ø 1,50 mm                                                                                                                                        |
| Colori delle coppie<br>Pair colours       | bianco/blu-blu ÷ bianco/arancio-arancio ÷ bianco/verde-verde ÷ bianco/marrone-marrone                                                                                                                               | white/blue-blue ÷ white/orange-orange ÷ white/green-green ÷ white/brown-brown                                                                                                                            |
| Schermo sulle coppie<br>Pair screen       | nastro alluminio/poliestere (alluminio verso l'esterno)                                                                                                                                                             | aluminum/polyester tape (outside aluminium surface)                                                                                                                                                      |
| Riunitura<br>assembling                   | coppie schermate riunite                                                                                                                                                                                            | shielded pairs stranded together                                                                                                                                                                         |
| Schermo totale<br>Overall shield          | treccia di rame stagnato con copertura >85%                                                                                                                                                                         | tinned copper braid 85% coverage                                                                                                                                                                         |
| Guaina esterna<br>Outer jacket            | SHF1 compound in accordo alla IEC 60092-360.<br>Colore: GRIGIO                                                                                                                                                      | SHF1 compound according to IEC 60092-360.<br>Colour: GREY                                                                                                                                                |
|                                           | SHF2 compound in accordo alla IEC 60092-360.<br>Colore: NERO                                                                                                                                                        | SHF2 compound according to IEC 60092-360.<br>Colour: BLACK                                                                                                                                               |
| Comportamento al fuoco<br>Fire behaviour  | IEC 60332-3-22 non propagante il fuoco<br>IEC 60332-1-2 non propagante la fiamma<br>IEC 60754-1 assenza di alogeni<br>IEC 60754-2 acidità dei fumi<br>IEC 60684-2 contenuto di fluoro<br>IEC 61034 densità dei fumi | IEC 60332-3-22 not fire propagation<br>IEC 60332-1-2 not flame propagation<br>IEC 60754-1 halogen content<br>IEC 60754-2 pH and conductivity<br>IEC 60684-2 fluorine content<br>IEC 61034 smoke emission |
| Resistenza chimica<br>Chemical resistance | Versione con SHF1: resistente ai raggi UV secondo UL 758 (protezione raccomandata in caso di contatto con acqua salata o nebulizzazione)                                                                            | SHF1 version: UV resistant according to UL 758 (protection recommended in case of direct contact with salty water or nebulation)                                                                         |
|                                           | Versione con SHF2: resistente ai raggi UV secondo UL 758, resistente all'olio secondo IEC 60092-360 tab. 9-10, acqua salata, agenti atmosferici                                                                     | SHF2 version: UV resistant according to UL 758, oil resistant according to IEC 60092-360 tab. 9-10, salty water, weathering                                                                              |
| Marcatura<br>Marking                      | Code <b>NP902CH</b> for <b>SHF1 version</b> : UNIKA (Italy) SH-DATA/ SHF1 ETHERNET CABLE CAT.7A (4x2xAWG23/7) - IEC 60332-3-22 - traceability code                                                                  |                                                                                                                                                                                                          |
|                                           | Code <b>NP902C</b> for <b>SHF2 version</b> : UNIKA (Italy) SH-DATA/ SHF2 ETHERNET CABLE CAT.7A (4x2xAWG23/7) - IEC 60332-3-22 - traceability code                                                                   |                                                                                                                                                                                                          |



| SHF1<br>SHF2                                                                                      |         | NP902AH<br>NP902A                                                   | NP902BH<br>NP902B    | NP902CH<br>NP902C   |
|---------------------------------------------------------------------------------------------------|---------|---------------------------------------------------------------------|----------------------|---------------------|
|                                                                                                   |         | 4x(2x26 AWG/7) S/FTP                                                | 4x(2x24 AWG/7) S/FTP | 4x(2x23 AWG/7)S/FTP |
| Massima resistenza in cc a 20°C<br>Max DC conductor resistance                                    |         | 145,0 Ω/km                                                          | 94,2 Ω/km            | 74,5 Ω/km           |
| Capacità<br>Capacitance                                                                           |         | 46 pF/m                                                             | 42 pF/m              | 45 pF/m             |
| Impedenza caratteristica (1÷100 MHz)<br>Characteristic Impedance (1÷100 MHz)                      |         | 100 Ω (±15%)                                                        | 100 Ω (±15%)         | 100 Ω (±15%)        |
| Tensione nominale<br>Voltage rating                                                               |         | 125 V                                                               | 125 V                | 125 V               |
| Minima resistenza di isolamento<br>Min insulation resistance                                      |         | 5,0 GΩxkm                                                           | 5,0 GΩxkm            | 5,0 GΩxkm           |
| Velocità nominale di propagazione 100MHz<br>Nominal velocity of propagation 100MHz                |         | 77%                                                                 | 77%                  | 77%                 |
| Impedenza di trasferimento<br>Transfer Impedance                                                  | 1 MHz   | 10 mΩ/m                                                             | 10 m Ω/m             | 10 dB/100m          |
|                                                                                                   | 10 MHz  | 10 mΩ/m                                                             | 8 mΩ/m               | 8 dB/100m           |
|                                                                                                   | 30 MHz  | 10 mΩ/m                                                             | 10 mΩ/m              | 10 dB/100m          |
| Attenuazione nominale<br>Nominal attenuation                                                      | 10 MHz  | 8,3 dB/100m                                                         | 5,9 dB/100m          | 5,7 dB/100m         |
|                                                                                                   | 100 MHz | 26,3 dB/100m                                                        | 19,0 dB/100m         | 18,7 dB/100m        |
|                                                                                                   | 250 MHz | 42,0 dB/100m                                                        | 30,8 dB/100m         | 30,1 dB/100m        |
|                                                                                                   | 600 MHz | 66,1 dB/100m                                                        | 49,5 dB/100m         | 47,6 dB/100m        |
| Peso nominale<br>Nominal weight                                                                   |         | 59 kg/km                                                            | 82 kg/km             | 92 kg/km            |
| Diametro nominale<br>Nominal diameter                                                             |         | 6,7 mm                                                              | 8,2 mm               | 8,1 mm              |
| Raggio di curvature minimo<br>Minimum bending radius                                              |         | 10 x outer diameter                                                 |                      |                     |
| Range di temperatura<br>Temperature range                                                         |         | -15 °C ÷ +90 °C (SHF1 version)<br>-40 °C ÷ +90 °C (SHF2 version)    |                      |                     |
| Norme di riferimento<br>Standard reference                                                        |         | EN 50173; EN 50288-4-2; IEC 61156-6; TIA/EIA 568 B.2; ISO/IEC 11801 |                      |                     |
| Link length recommended<br>CLASS D (100 MHz) CHANNEL LINK:<br>CLASS D (100 MHz) PERMANENT LINK:   |         | ≤ 84 m<br>≤ 74 m                                                    | ≤ 106 m<br>≤ 92 m    | ≤ 116 m<br>≤ 104 m  |
| Link length recommended<br>CLASS D (500 MHz) CHANNEL LINK:<br>CLASS D (500 MHz) PERMANENT LINK:   |         | ≤ 78 m<br>≤ 68 m                                                    | ≤ 102 m<br>≤ 90 m    | ≤ 109 m<br>≤ 95 m   |
| Link length recommended<br>CLASS D (600 MHz) CHANNEL LINK:<br>CLASS D (600 MHz) PERMANENT LINK:   |         | ≤ 76 m<br>≤ 66 m                                                    | ≤ 100 m<br>≤ 88 m    | ≤ 107 m<br>≤ 93 m   |
| Link length recommended<br>CLASS D (1000 MHz) CHANNEL LINK:<br>CLASS D (1000 MHz) PERMANENT LINK: |         | ≤ 72 m<br>≤ 62 m                                                    | ≤ 96 m<br>≤ 83 m     | ≤ 100 m<br>≤ 87 m   |

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