

| Standard                            | Aprobari / Approvals                                                                                                                                      | Ambalare / Packaging |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| SR HD 603 S1/5G; IEC 60502-1, ST105 | Certificat de omologare tehnica feroviara<br>Nr 126, 127/2014 , AFER Buc<br>Railway Technical Approval Certificate<br>No 126, 127/2014 , AFER Buc Romania | Tambur/ drum         |

| CARACTERISTICI                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                  | CHARACTERISTICS                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Utilizare:</b><br>Cablurile sunt utilizate pentru transportul energiei electrice la statii de putere.<br>Cablurile trebuie protejate impotriva agentilor corozivi si a solventilor chimici<br>Cablurile sunt cu rezistenta la UV |                                                                                                                                                                                                                                                                                                                                                                  | <b>Applicability:</b><br>Power supply to power stations.<br>The cables must be protected against: corozive chemicals and chemical<br>Cables are UV resistant |                                                                                                                                                                                                                                                                                                                                                    |
| Tensiune nominala $U_0/U$                                                                                                                                                                                                           | 0.6/1 kV                                                                                                                                                                                                                                                                                                                                                         | Rated voltage $U_0/U$                                                                                                                                        | 0.6/1 kV                                                                                                                                                                                                                                                                                                                                           |
| Tensiune de incercare                                                                                                                                                                                                               | 4 kV ca sau 12 kV cc,5 min                                                                                                                                                                                                                                                                                                                                       | Test voltage                                                                                                                                                 | 4 kV ac or 12 kV dc,5 min                                                                                                                                                                                                                                                                                                                          |
| Rezistivitatea de volum specifica, min,                                                                                                                                                                                             | la 20 °C-10 <sup>15</sup><br>la 90°C-10 <sup>12</sup>                                                                                                                                                                                                                                                                                                            | Volume resistivity at , min                                                                                                                                  | la 20 °C-10 <sup>15</sup><br>la 90°C-10 <sup>12</sup>                                                                                                                                                                                                                                                                                              |
| Rezistenta de izolatie la 20 °C                                                                                                                                                                                                     | Min. 50 MΩ*km                                                                                                                                                                                                                                                                                                                                                    | Insulation resistance at 20 °C                                                                                                                               | Min. 50 MΩ*km                                                                                                                                                                                                                                                                                                                                      |
| Constanta rezistentei de izolatie                                                                                                                                                                                                   | 90 °C:min 3.67 MΩ*km                                                                                                                                                                                                                                                                                                                                             | Insulation resistance constant at                                                                                                                            | 90 °C:min 3.67 MΩ*km                                                                                                                                                                                                                                                                                                                               |
| Temperatura minima de instalare pe cablu                                                                                                                                                                                            | -5°C                                                                                                                                                                                                                                                                                                                                                             | The minim temperature of de cable during installation                                                                                                        | -5°C                                                                                                                                                                                                                                                                                                                                               |
| Temperatura maxima de lucru                                                                                                                                                                                                         | +90°C                                                                                                                                                                                                                                                                                                                                                            | Max.permissible operating temperature                                                                                                                        | +90°C                                                                                                                                                                                                                                                                                                                                              |
| Temperatura maxima de scurt-circuit                                                                                                                                                                                                 | +250°C (max 5 sec)                                                                                                                                                                                                                                                                                                                                               | Max. short-circuit temperature                                                                                                                               | +250°C (max 5 sec)                                                                                                                                                                                                                                                                                                                                 |
| Temperatura de utilizare normala                                                                                                                                                                                                    | -40°C ++90°C                                                                                                                                                                                                                                                                                                                                                     | Normal operational temperature range                                                                                                                         | -40°C + +90°C                                                                                                                                                                                                                                                                                                                                      |
| Temperatura minima de montaj                                                                                                                                                                                                        | -5°C                                                                                                                                                                                                                                                                                                                                                             | Temperature during installation                                                                                                                              | -5°C                                                                                                                                                                                                                                                                                                                                               |
| Temperatura masurata pe manta                                                                                                                                                                                                       | -10°C ++90°C                                                                                                                                                                                                                                                                                                                                                     | Temperature measured on the sheath                                                                                                                           | -10°C + +90°C                                                                                                                                                                                                                                                                                                                                      |
| Conformitate RoHS                                                                                                                                                                                                                   | Da                                                                                                                                                                                                                                                                                                                                                               | RoHS compliancy                                                                                                                                              | Yes                                                                                                                                                                                                                                                                                                                                                |
| Conformitate REACH                                                                                                                                                                                                                  | Da                                                                                                                                                                                                                                                                                                                                                               | REACH compliancy                                                                                                                                             | Yes                                                                                                                                                                                                                                                                                                                                                |
| Conductor de cupru sau aluminiu                                                                                                                                                                                                     | Conductor unifilar (re),conductor multifilar (rm) conf SR EN 60228                                                                                                                                                                                                                                                                                               | Aluminum or copper conductor                                                                                                                                 | Monowire (re), multiwire (rm) according to SR EN 60228                                                                                                                                                                                                                                                                                             |
| Izolatie                                                                                                                                                                                                                            | XLPE                                                                                                                                                                                                                                                                                                                                                             | Insulation                                                                                                                                                   | XLPE                                                                                                                                                                                                                                                                                                                                               |
| Umplutura                                                                                                                                                                                                                           | PVC sau benzi din material plastic                                                                                                                                                                                                                                                                                                                               | Filling                                                                                                                                                      | PVC or plastic tape                                                                                                                                                                                                                                                                                                                                |
| Manta exterioara                                                                                                                                                                                                                    | PVC tip ST2 negru sau gri (A/C2XY)<br>Cablurile sunt cu rezistenta sau rezistenta marita la propagarea flacarii conf SR EN 60332-1-2(A/ C2XY), SR EN 60332-3-24 /cat C (A/C2XY-F)                                                                                                                                                                                | Outer sheath                                                                                                                                                 | PVC type ST2 black or gray<br>The cables are flame retardant or extra flame retardant acc SR EN 60332-1-2(A/C2XY) ,SR EN 60332-3-24 /cat C (A/C2XY-F, )                                                                                                                                                                                            |
| Marcaj pe manta                                                                                                                                                                                                                     | SC ELECTROPLAST SA ,simbol cablu ,tensiune de lucru, luna,an de fabricatie, marcaj de lungime<br>Exemplu de marcaj :<br>C2XY-F 4x25 mm <sup>2</sup> 0.6/1 kV<br>ELECTROPLAST SA 03/2015 0030                                                                                                                                                                     | Sheath marking                                                                                                                                               | SC ELECTROPLAST SA , cable symbol , operational voltage, months ,year of manufacture, mark length<br>Example:<br>C2XY-F 4x25 mm <sup>2</sup> 0.6/1 kV<br>ELECTROPLAST SA 03/2015 0030                                                                                                                                                              |
| Raza minima de curbura la instalare                                                                                                                                                                                                 | Min. 12 x diametrul cablului                                                                                                                                                                                                                                                                                                                                     | Min. bending radius at installation                                                                                                                          | Min. 12 x cable diameter                                                                                                                                                                                                                                                                                                                           |
| Forta maxima de tractiune la pozare                                                                                                                                                                                                 | Max -50 N/mm <sup>2</sup> ptr cab cu cond Cu<br>-30 N/mm <sup>2</sup> ptr cab cu cond Al                                                                                                                                                                                                                                                                         | Max. tensile strain during installation                                                                                                                      | Max- 50 N/mm <sup>2</sup> for copper conductor cable<br>-30 N/mm <sup>2</sup> for aluminum conductor cable                                                                                                                                                                                                                                         |
| Cod de culori conf SR HD 308 S2 (nr. de conductoare)                                                                                                                                                                                | 1 negru / galben-verde<br>2 albastru, maro / galben-verde,negru, pt sect >10mm <sup>2</sup><br>3 maro,negru,gri / galben-verde,albastru,maro<br>4 albastru,maro,negru,gri / galben-verde,maro,negru,gri<br>5 albastru,maro,negru, gri,negru / galben-verde,albastru,maro,negru,gri<br>>5 conductoare negre numerotate sau galben-verde si conductoare numerotate | Color coding according SR HD 308 S2 (no. of conductors)                                                                                                      | 1 black / yellow-green<br>2 blue,brown yellow-green,black for sect>10 mm <sup>2</sup><br>3 brown,black,gray yellow-green, blue,brown<br>4 blue, brown, black,gray yellow-green, brown,black,gray<br>5 blue, brown, black, gray, black yellow-green, blue, brown,black,gray<br>>5 numbered black conductors or yellow-green and numbered conductors |

**si manta de PVC**

| Tipodimensiune<br>cablu | Tip<br>conductor  | Grosime<br>radiala<br>izolatie         | Grosime radiala<br>manta                              | Rezistenta<br>electrica<br>max, la 20°C<br>Cu / Al | Diametru<br>exterior  |
|-------------------------|-------------------|----------------------------------------|-------------------------------------------------------|----------------------------------------------------|-----------------------|
| <i>Cable size</i>       | <i>Cond. type</i> | <i>Insulation radial<br/>thickness</i> | <i>Sheath radial<br/>thickness<br/>Nom/min<br/>mm</i> | <i>Max. resistance at<br/>20°C</i>                 | <i>Outer diameter</i> |
|                         |                   | mm                                     | mm                                                    | Ω/km                                               | mm                    |
| 1x1.5                   | re                | 0.7                                    | 1.4                                                   | 12.1                                               | 5.6                   |
| 1x2.5                   | re                | 0.7                                    | 1.4                                                   | 7.41                                               | 6.0                   |
| 1x4                     | re                | 0.7                                    | 1.4                                                   | 4.61                                               | 6.4                   |
| 1x6                     | re                | 0.7                                    | 1.4                                                   | 3.08                                               | 6.9                   |
| 1x10                    | re                | 0.7                                    | 1.4                                                   | 1.83/3.08                                          | 7.7                   |
| 1x16                    | re                | 0.7                                    | 1.4                                                   | 1.15/1.91                                          | 8.6                   |
| 1x25                    | rm                | 0.9                                    | 1.4                                                   | 0.727/1.20                                         | 10.5                  |
| 1x35                    | rm                | 0.9                                    | 1.4                                                   | 0.524/0.868                                        | 11.5                  |
| 1x50                    | rm                | 1.0                                    | 1.4                                                   | 0.387/0.641                                        | 12.9                  |
| 1x70                    | rm                | 1.1                                    | 1.4                                                   | 0.268/0.443                                        | 14.7                  |
| 1x95                    | rm                | 1.1                                    | 1.5                                                   | 0.193/0.320                                        | 16.6                  |
| 1x120                   | rm                | 1.2                                    | 1.5                                                   | 0.153/0.253                                        | 18.3                  |
| 1x150                   | rm                | 1.4                                    | 1.6                                                   | 0.124/0.206                                        | 20.2                  |
| 1x185                   | rm                | 1.6                                    | 1.7                                                   | 0.0991/0.164                                       | 23.0                  |
| 1x240                   | rm                | 1.7                                    | 1.8                                                   | 0.0754/0.125                                       | 25.9                  |
| 1x300                   | rm                | 1.8                                    | 1.9                                                   | 0.0601/0.100                                       | 28.9                  |
| 1x400                   | rm                | 2.0                                    | 2.0                                                   | 0.0470                                             | 31.2                  |
| 1x500                   | rm                | 2.2                                    | 2.2                                                   | 0.0366                                             | 37.3                  |
| 2x1.5                   | re                | 0.7                                    | 1.8                                                   | 12.1                                               | 9.4                   |
| 2x2.5                   | re                | 0.7                                    | 1.8                                                   | 7.41                                               | 10.1                  |
| 2x4                     | re                | 0.7                                    | 1.8                                                   | 4.61                                               | 11.0                  |
| 2x6                     | re                | 0.7                                    | 1.8                                                   | 3.08                                               | 12.0                  |
| 2x10                    | re                | 0.7                                    | 1.8                                                   | 1.83/3.08                                          | 13.6                  |
| 2x16                    | re                | 0.7                                    | 1.8                                                   | 1.15/1.91                                          | 15.4                  |
| 2x25                    | rm                | 0.9                                    | 1.8                                                   | 0.727/1.20                                         | 19.2                  |
| 2x35                    | rm                | 0.9                                    | 1.8                                                   | 0.524/0.868                                        | 21.2                  |
| 2x50                    | rm                | 1.0                                    | 1.8                                                   | 0.387/0.641                                        | 24.0                  |
| 2x70                    | rm                | 1.1                                    | 1.8                                                   | 0.268/0.443                                        | 27.6                  |
| 2x95                    | rm                | 1.1                                    | 2.0                                                   | 0.193/0.320                                        | 31.4                  |
| 2x120                   | rm                | 1.2                                    | 2.1                                                   | 0.153/0.253                                        | 35.0                  |
| 2x150                   | rm                | 1.4                                    | 2.2                                                   | 0.124/0.206                                        | 38.6                  |
| 2x185                   | rm                | 1.6                                    | 2.4                                                   | 0.0991/0.164                                       | 44.2                  |
| 2x240                   | rm                | 1.7                                    | 2.5                                                   | 0.0754/0.125                                       | 49.0                  |
| 3x1.5                   | re                | 0.7                                    | 1.8                                                   | 0.387                                              | 9.6                   |
| 3x2.5                   | re                | 0.7                                    | 1.8                                                   | 7.41                                               | 10.4                  |
| 3x4                     | re                | 0.7                                    | 1.8                                                   | 4.61                                               | 11.4                  |
| 3x6                     | re                | 0.7                                    | 1.8                                                   | 3.08                                               | 12.4                  |
| 3x10                    | re                | 0.7                                    | 1.8                                                   | 1.83/2.08                                          | 14.1                  |
| 3x16                    | re                | 0.7                                    | 1.8                                                   | 1.15/1.91                                          | 16.0                  |
| 3x16+10                 | re                | 0.7                                    | 1.8                                                   | 1.15;1.83<br>1.91/3.08                             | 17.3                  |
| 3x25                    | rm                | 0.9                                    | 1.8                                                   | 0.727/1.2                                          | 20                    |
| 3x25+16                 | rm;re             | 0.9;0.7                                | 1.8                                                   | 0.727;1.15<br>1.20/1.91                            | 21.3                  |
| 3x35                    | sm                | 0.9                                    | 1.8                                                   | 0.524/0.868                                        | 19.9                  |

**si manta de PVC**

| Tipodimensiune<br>cablu | Tip<br>conductor  | Grosime<br>radiala<br>izolatie         | Grosime radiala<br>manta                              | Rezistenta<br>electrica<br>max, la 20°C<br>Cu / Al | Diametru<br>exterior  |
|-------------------------|-------------------|----------------------------------------|-------------------------------------------------------|----------------------------------------------------|-----------------------|
| <i>Cable size</i>       | <i>Cond. type</i> | <i>Insulation radial<br/>thickness</i> | <i>Sheath radial<br/>thickness<br/>Nom/min<br/>mm</i> | <i>Max. resistance at<br/>20°C</i>                 | <i>Outer diameter</i> |
|                         |                   | mm                                     | mm                                                    | Ω/km                                               | mm                    |
| 3x35+16                 | rm;re             | 0.9;0.7                                | 1.8                                                   | 0.524;1.15<br>0.868/1.91                           | 23.1                  |
| 3x50                    | sm                | 1.0                                    | 1.8                                                   | 0.387/0.641                                        | 24.1                  |
| 3x50+25                 | sm;rm             | 1.0;0.9                                | 1.8                                                   | 0.387;0.727<br>0.641/1.2                           | 24.1                  |
| 3x70                    | sm                | 1.1                                    | 1.8                                                   | 0.268/0.443                                        | 25.9                  |
| 3x70+35                 | sm;rm             | 1.1;0.9                                | 1.8                                                   | 0.268;0.524<br>0.443/0.868                         | 27.7                  |
| 3x95                    | sm                | 1.1                                    | 1.9                                                   | 0.193/0.320                                        | 30.5                  |
| 3x95+25                 | sm;sm             | 1.1;1.0                                | 1.9                                                   | 0.193;0.387<br>0.320/1.2                           | 30.9                  |
| 3x120                   | sm                | 1.2                                    | 2.0                                                   | 0.153/0.253                                        | 33.5                  |
| 3x120+70                | sm;sm             | 1.2;1.1                                | 2.1                                                   | 0.153;0.268<br>0.253/0.443                         | 34.3                  |
| 3x150                   | sm                | 1.4                                    | 2.1                                                   | 0.124/0.206                                        | 37.3                  |
| 3x150+70                | sm;sm             | 1.4;1.1                                | 2.2                                                   | 0.124;0.268<br>0.206/0.443                         | 38.3                  |
| 3x185                   | sm                | 1.6                                    | 2.2                                                   | 0.0991/0.164                                       | 41.1                  |
| 3x185+95                | sm;sm             | 1.6;1.1                                | 2.3                                                   | 0.0991;0.193<br>0.164/0.320                        | 42.3                  |
| 3x240                   | sm                | 1.7                                    | 2.4                                                   | 0.0754/0.125                                       | 44.3                  |
| 3x240+120               | sm,sm             | 1.7;1.2                                | 2.6                                                   | 0.0754/0.153<br>0.125/0.253                        | 51.9                  |
| 4x1.5                   | re                | 0.7                                    | 1.8                                                   | 12.1                                               | 10.5                  |
| 4x2.5                   | re                | 0.7                                    | 1.8                                                   | 7.41                                               | 11.4                  |
| 4x4                     | re                | 0.7                                    | 1.8                                                   | 4.61                                               | 12.5                  |
| 4x6                     | re                | 0.7                                    | 1.8                                                   | 3.08                                               | 13.7                  |
| 4x10                    | re                | 0.7                                    | 1.8                                                   | 1.83/3.08                                          | 15.7                  |
| 4x16                    | re                | 0.7                                    | 1.8                                                   | 1.15/1.91                                          | 17.8                  |
| 4x25                    | rm                | 0.9                                    | 1.8                                                   | 0.727/1.20                                         | 22.4                  |
| 4x35                    | sm                | 0.9                                    | 1.8                                                   | 0.524/0.868                                        | 22.1                  |
| 4x50                    | sm                | 1.0                                    | 1.8                                                   | 0.387/0.641                                        | 26.5                  |
| 4x70                    | sm                | 1.1                                    | 1.9                                                   | 0.268/0.443                                        | 30.4                  |
| 4x95                    | sm                | 1.1                                    | 2.0                                                   | 0.193/0.320                                        | 34.1                  |
| 4x120                   | sm                | 1.2                                    | 2.1                                                   | 0.153/0.253                                        | 37.6                  |
| 4x150                   | sm                | 1.4                                    | 2.3                                                   | 0.124/0.206                                        | 41.7                  |
| 4x185                   | sm                | 1.6                                    | 2.4                                                   | 0.0991/0.164                                       | 45.9                  |
| 4x240                   | sm                | 1.7                                    | 2.6                                                   | 0.0754/0.125                                       | 51.9                  |
| 5x1.5                   | re                | 0.7                                    | 1.8                                                   | 12.1                                               | 11.3                  |
| 5x2.5                   | re                | 0.7                                    | 1.8                                                   | 7.41                                               | 12.3                  |
| 5x4                     | re                | 0.7                                    | 1.8                                                   | 4.61                                               | 13.5                  |
| 5x6                     | re                | 0.7                                    | 1.8                                                   | 3.08                                               | 14.9                  |
| 5x10                    | re                | 0.7                                    | 1.8                                                   | 1.83/3.08                                          | 17.0                  |
| 5x16                    | re                | 0.7                                    | 1.8                                                   | 1.15/1.91                                          | 19.5                  |
| 5x25                    | rm                | 0.9                                    | 1.8                                                   | 0.727/1.20                                         | 24.6                  |
| 5x35                    | rm                | 0.9                                    | 1.8                                                   | 0.524/0.868                                        | 27.3                  |
| 5x50                    | rm                | 1.0                                    | 2.0                                                   | 0.387/0.641                                        | 31.5                  |

si manta de PVC

| Tipodimensiune cablu | Tip conductor     | Grosime radiala izolatie           | Grosime radiala manta                           | Rezistenta electrica max, la 20°C<br>Cu / Al | Diametru exterior               |
|----------------------|-------------------|------------------------------------|-------------------------------------------------|----------------------------------------------|---------------------------------|
| <i>Cable size</i>    | <i>Cond. type</i> | <i>Insulation radial thickness</i> | <i>Sheath radial thickness</i><br>Nom/min<br>mm | <i>Max. resistance at 20°C</i><br><br>Ω/km   | <i>Outer diameter</i><br><br>mm |
| 5x70                 | rm                | 1.1                                | 2.1                                             | 0.268/0.443                                  | 36.5                            |
| 5x95                 | rm                | 1.1                                | 2.3                                             | 0.193/0.320                                  | 41.5                            |
| 5x120                | rm                | 1.2                                | 2.5                                             | 0.153/0.253                                  | 46.5                            |
| 5x150                | rm                | 1.4                                | 2.6                                             | 0.124/0.206                                  | 51.3                            |
| 5x185                | rm                | 1.6                                | 2.9                                             | 0.0991/0.164                                 | 58.9                            |
| 7x1.5                | re                | 0.7                                | 1.8                                             | 12.1                                         | 12.1                            |
| 7x2.5                | re                | 0.7                                | 1.8                                             | 7.41                                         | 13.3                            |
| 8x1.5                | re                | 0.7                                | 1.8                                             | 12.1                                         | 14.1                            |
| 8x2.5                | re                | 0.7                                | 1.8                                             | 7.41                                         | 15.5                            |
| 10x1.5               | re                | 0.7                                | 1.8                                             | 12.1                                         | 15.0                            |
| 10x2.5               | re                | 0.7                                | 1.8                                             | 7.41                                         | 16.5                            |
| 12x1.5               | re                | 0.7                                | 1.8                                             | 12.1                                         | 15.5                            |
| 12x2.5               | re                | 0.7                                | 1.8                                             | 7.41                                         | 17.0                            |
| 14x1.5               | re                | 0.7                                | 1.8                                             | 12.1                                         | 16.2                            |
| 14x2.5               | re                | 0.7                                | 1.8                                             | 7.41                                         | 17.8                            |
| 19x1.5               | re                | 0.7                                | 1.8                                             | 12.1                                         | 17.8                            |
| 19x2.5               | re                | 0.7                                | 1.8                                             | 7.41                                         | 19.7                            |
| 24x1.5               | re                | 0.7                                | 1.8                                             | 12.1                                         | 20.6                            |
| 24x2.5               | re                | 0.7                                | 1.8                                             | 7.41                                         | 22.9                            |
| 30x1.5               | re                | 0.7                                | 1.8                                             | 12.1                                         | 21.7                            |
| 30x2.5               | re                | 0.7                                | 1.8                                             | 7.41                                         | 24.2                            |
| 37x1.5               | re                | 0.7                                | 1.8                                             | 12.1                                         | 23.4                            |
| 37x2.5               | re                | 0.7                                | 1.8                                             | 7.41                                         | 26.0                            |

**Forma constructiva**

**a) Cablurilor de energie 0.6/1 kV tip A/C2XY(-F)**



|   |                                                                      |   |                                                      |
|---|----------------------------------------------------------------------|---|------------------------------------------------------|
| 1 | Conductoare rotunde, unifilare sau multifilare, din cupru / aluminiu | 1 | Monowire or multi wire copper / aluminium conductors |
| 2 | Conductoare izolate                                                  | 2 | Insulated conductors                                 |
| 3 | Invelis comun extrudat sau din benzi                                 | 3 | Filler                                               |
| 4 | Manta exterioara                                                     | 4 | Outer sheath                                         |