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**TLWY**

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**FLAT RIBBON CABLES****APPLICATIONS**

**TLWY** - are flat ribbon cables are designed for control cabinets, electronic devices and others as interconnection cables for electronic modules, equipment and instruments.

**CONSTRUCTION**

- flexible, multiwire conductors, stranded of bare annealed copper wires (tin-plated on request),
- PVC insulation - identification colour code according to table (other colour systems also available),

| No of conductor | Colour of insulation |
|-----------------|----------------------|
| 1 8 15 22       | red                  |
| 2 9 16 23       | blue                 |
| 3 10 17 24      | black                |
| 4 11 18 25      | white                |
| 5 12 19 26      | green                |
| 6 13 20 27      | brown                |
| 7 14 21 28      | yellow               |

- insulated conductors laid parallel to each other and glued together.

**CHARACTERISTICS**

|                                          |                 |              |             |             |             |            |             |            |            |
|------------------------------------------|-----------------|--------------|-------------|-------------|-------------|------------|-------------|------------|------------|
| Conductor cross-section                  | mm <sup>2</sup> | <b>0.124</b> | <b>0.14</b> | <b>0.22</b> | <b>0.35</b> | <b>0.5</b> | <b>0.75</b> | <b>1.0</b> | <b>1.5</b> |
| Peak operating voltage                   | Vrms            | 150          | 150         | 150         | 150         | 300        | 300         | 300        | 300        |
| Voltage test                             | Vrms            | 500          | 500         | 1000        | 1500        | 1500       | 1500        | 2000       | 2000       |
| Insulation resistance, minimum           | MΩ·km           | 10           | 10          | 10          | 10          | 10         | 10          | 10         | 10         |
| DC conductor resistance at 20°C, maximum | Ω/km            | 155          | 140         | 89.2        | 57          | 38.8       | 26          | 19.5       | 13.3       |

Operating temperature range  
for fixed equipment from - 10 to + 70°C  
for movable equipment from - 5 to + 50°C

Minimum bending radius 10 x wire diameter  
Cable combustibility flame retardant  
Combustibility tests PN-EN 60332-1-2 and IEC 60332-1  
Reference standards PN-91/T-90211

**CE** = the cable meets requirements of the low voltage directive 2006/95/WE

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| Product No. | Number of conductors x conductor cross-section | Cable outer dimensions (appr.) | Copper index | Cable weight (appr.) |
|-------------|------------------------------------------------|--------------------------------|--------------|----------------------|
|             | mm <sup>2</sup>                                | mm                             | kg/km        | kg/km                |
|             | 2 x 0.124                                      | 1.0 x 2.0                      | 2.38         | 4.4                  |
|             | 3 x 0.124                                      | 1.0 x 3.0                      | 3.57         | 6.5                  |
|             | 4 x 0.124                                      | 1.0 x 4.0                      | 4.76         | 8.7                  |
|             | 5 x 0.124                                      | 1.0 x 5.0                      | 5.95         | 10.9                 |
|             | 6 x 0.124                                      | 1.0 x 6.0                      | 7.14         | 13.1                 |
|             | 7 x 0.124                                      | 1.0 x 7.0                      | 8.33         | 15.2                 |
|             | 8 x 0.124                                      | 1.0 x 8.0                      | 9.52         | 17.4                 |
|             | 9 x 0.124                                      | 1.0 x 9.0                      | 10.7         | 19.6                 |
|             | 10 x 0.124                                     | 1.0 x 10.0                     | 11.9         | 21.8                 |
|             | 11 x 0.124                                     | 1.0 x 11.0                     | 13.1         | 23.9                 |
|             | 12 x 0.124                                     | 1.0 x 12.0                     | 14.3         | 26.1                 |
|             |                                                |                                |              |                      |
|             | 7 x 0.14                                       | 1.05 x 7.35                    | 9.4          | 16.7                 |
|             | 8 x 0.14                                       | 1.05 x 8.4                     | 10.8         | 19.1                 |
|             | 10 x 0.14                                      | 1.05 x 10.5                    | 13.4         | 23.8                 |
|             | 12 x 0.14                                      | 1.05 x 12.6                    | 16.1         | 28.6                 |
|             |                                                |                                |              |                      |
|             | 2 x 0.22                                       | 1.05 x 2.1                     | 4.22         | 5.7                  |
|             | 3 x 0.22                                       | 1.05 x 3.15                    | 6.34         | 8.6                  |
|             | 4 x 0.22                                       | 1.05 x 4.2                     | 8.45         | 11.4                 |
|             | 5 x 0.22                                       | 1.05 x 5.15                    | 10.6         | 14.3                 |
|             | 6 x 0.22                                       | 1.05 x 6.3                     | 12.7         | 17.1                 |
|             | 7 x 0.22                                       | 1.05 x 7.35                    | 14.8         | 20.0                 |
|             | 8 x 0.22                                       | 1.05 x 8.4                     | 16.9         | 22.9                 |
|             | 9 x 0.22                                       | 1.05 x 9.45                    | 19.0         | 25.7                 |
|             | 10 x 0.22                                      | 1.05 x 10.5                    | 21.1         | 28.6                 |
|             | 12 x 0.22                                      | 1.05 x 12.6                    | 25.3         | 34.3                 |
|             | 15 x 0.22                                      | 1.05 x 15.75                   | 31.7         | 42.9                 |
|             | 20 x 0.22                                      | 1.05 x 21.0                    | 42.2         | 57.2                 |
|             | 24 x 0.22                                      | 1.05 x 25.2                    | 50.7         | 68.6                 |

| Product No. | Number of conductors x conductor cross-section | Cable outer dimensions (appr.) | Copper index | Cable weight (appr.) |
|-------------|------------------------------------------------|--------------------------------|--------------|----------------------|
|             | mm <sup>2</sup>                                | mm                             | kg/km        | kg/km                |
|             | 2 x 0.35                                       | 1.4 x 2.8                      | 6.72         | 9.2                  |
|             | 3 x 0.35                                       | 1.4 x 4.2                      | 10.1         | 13.8                 |
|             | 4 x 0.35                                       | 1.4 x 5.6                      | 13.4         | 18.7                 |
|             | 5 x 0.35                                       | 1.4 x 7.0                      | 16.8         | 23.0                 |
|             | 6 x 0.35                                       | 1.4 x 8.4                      | 20.2         | 27.7                 |
|             | 7 x 0.35                                       | 1.4 x 9.8                      | 23.5         | 32.3                 |
|             | 8 x 0.35                                       | 1.4 x 11.2                     | 26.9         | 37.4                 |
|             | 9 x 0.35                                       | 1.4 x 12.6                     | 30.2         | 41.5                 |
|             | 10 x 0.35                                      | 1.4 x 14.0                     | 33.6         | 46.2                 |
|             | 11 x 0.35                                      | 1.4 x 15.4                     | 37.0         | 50.8                 |
|             | 12 x 0.35                                      | 1.4 x 16.8                     | 40.3         | 56.1                 |
|             | 20 x 0.35                                      | 1.4 x 28.0                     | 67.2         | 93.6                 |
|             | 24 x 0.35                                      | 1.4 x 37.9                     | 80.6         | 112.3                |
|             |                                                |                                |              |                      |
|             | 4 x 0.50                                       | 1.94 x 7.76                    | 19.2         | 32.2                 |
|             | 6 x 0.50                                       | 1.94 x 11.64                   | 28.8         | 47.4                 |
|             | 8 x 0.50                                       | 1.94 x 15.52                   | 38.4         | 63.2                 |
|             | 10 x 0.50                                      | 1.94 x 19.40                   | 48.0         | 79.3                 |
|             | 12 x 0.50                                      | 1.94 x 23.28                   | 57.6         | 95.2                 |
|             |                                                |                                |              |                      |
|             | 4 x 0.75                                       | 2.2 x 8.8                      | 28.8         | 43.4                 |
|             | 6 x 0.75                                       | 2.2 x 13.2                     | 43.2         | 65.1                 |
|             | 8 x 0.75                                       | 2.2 x 17.6                     | 57.6         | 86.8                 |
|             | 12 x 0.75                                      | 2.2 x 26.4                     | 86.4         | 130.1                |
|             |                                                |                                |              |                      |
|             | 4 x 1.0                                        | 2.3 x 9.2                      | 38.4         | 53.6                 |
|             | 12 x 1.0                                       | 2.3 x 27.6                     | 115.2        | 161.0                |

Other cross-sections and conductor counts are available upon request.  
TECHNOKABEL S.A reserves the right to change specifications without prior notice.