



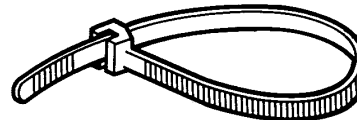
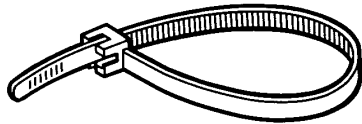
87045 LIMOGES Cedex  
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Technical sheet: F9012D

## Colring cable ties

Cat. No(s): 320 12 to 320 63

Date: 22.04.97



### 1. USE

The Colring cable tie is specially designed for connection of electrical cables in series. It has a self-locking head. The ribbing at 0.7 mm intervals allows tightening to the exact dimension of the cables to be held together

### 2. TECHNICAL CHARACTERISTICS

#### 2.1 Cable ties with ribbed internal surface

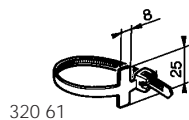
| Cat. No. |                           | Width (mm) | Flat length (mm) | Max. tightening diameter (mm) | Min. tightening diameter (mm) | Max. clipping force (mm) | Tensile strength                   |                                |
|----------|---------------------------|------------|------------------|-------------------------------|-------------------------------|--------------------------|------------------------------------|--------------------------------|
| Clear    | Black High temp. UV prot. |            |                  |                               |                               |                          | Test diameter (mm) acc. to UL 1565 | Guaranteed min. strength (daN) |
| 320 30   | 320 12                    | 2.4        | 95               | 18                            | 1.6                           | 0.15                     | 16                                 | 8.2                            |
| 320 31   |                           | 2.4        | 140              | 33                            | 1.6                           | 0.15                     | 29                                 | 8.2                            |
| 320 32   |                           | 2.4        | 180              | 46                            | 1.6                           | 0.15                     | 37                                 | 8.2                            |
| 320 37   | 320 15                    | 3.5        | 140              | 33                            | 1.6                           | 0.20                     | 29                                 | 13.6                           |
| 320 38   |                           | 3.5        | 180              | 46                            | 1.6                           | 0.20                     | 27                                 | 13.6                           |
| 320 39   |                           | 3.5        | 280              | 77                            | 1.6                           | 0.20                     | 76                                 | 13.6                           |
| 320 40   |                           | 3.5        | 360              | 102                           | 1.6                           | 0.20                     | 102                                | 13.6                           |
| 320 42   | 320 22                    | 4.6        | 180              | 46                            | 1.6                           | 0.25                     | 37                                 | 22.7                           |
| 320 43   |                           | 4.6        | 280              | 77                            | 1.6                           | 0.25                     | 76                                 | 22.7                           |
| 320 44   | 320 24                    | 4.6        | 360              | 102                           | 1.6                           | 0.25                     | 102                                | 22.7                           |
| 320 47   |                           | 7.6        | 180              | 42                            | 4.8                           | 1                        | 37                                 | 54.5                           |
| 320 49   | 320 29                    | 7.6        | 360              | 98                            | 4.8                           | 1                        | 88                                 | 54.5                           |
| 320 50   |                           | 7.6        | 720              | 218                           | 4.8                           | 1                        | 102                                | 54.5                           |

#### Identification cable ties

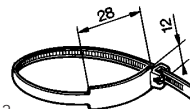
| Cat. No. |                           | Width (mm) | Flat length (mm) | Max. tightening diameter (mm) | Min. tightening diameter (mm) | Max. clipping force (mm) | Tensile strength                   |                                |
|----------|---------------------------|------------|------------------|-------------------------------|-------------------------------|--------------------------|------------------------------------|--------------------------------|
| Clear    | Black High temp. UV prot. |            |                  |                               |                               |                          | Test diameter (mm) acc. to UL 1565 | Guaranteed min. strength (daN) |
| 320 61   |                           | 2.4        | 95               | 18                            | 4                             | 0.15                     | 16                                 | 8.2                            |
| 320 63   |                           | 4.6        | 160              | 46                            | 9.5                           | 0.25                     | 37                                 | 22.7                           |

#### 2.2 Cable ties with ribbed external surface

| Cat. No. |  | Width (mm) | Flat length (mm) | Max. tightening diameter (mm) | Min. tightening diameter (mm) | Max. clipping force (daN) | Tensile strength                   |                                |
|----------|--|------------|------------------|-------------------------------|-------------------------------|---------------------------|------------------------------------|--------------------------------|
| Clear    |  |            |                  |                               |                               |                           | Test diameter (mm) acc. to UL 1565 | Guaranteed min. strength (daN) |
| 320 52   |  | 2.4        | 105              | 22                            | 1.6                           | 0.45                      | 16                                 | 8.2                            |
| 320 54   |  | 3.5        | 140              | 33                            | 1.6                           | 0.6                       | 29                                 | 13.6                           |
| 320 55   |  | 4.6        | 180              | 46                            | 1.6                           | 0.9                       | 37                                 | 22.7                           |
| 320 57   |  | 4.6        | 360              | 102                           | 1.6                           | 0.9                       | 88                                 | 22.7                           |
| 320 58   |  | 7.6        | 360              | 98                            | 4.8                           | 1.5                       | 88                                 | 54.5                           |

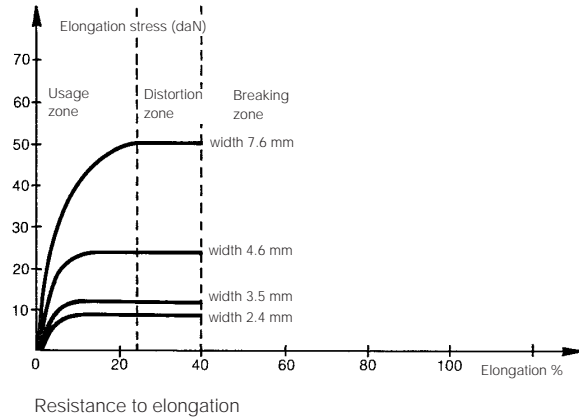
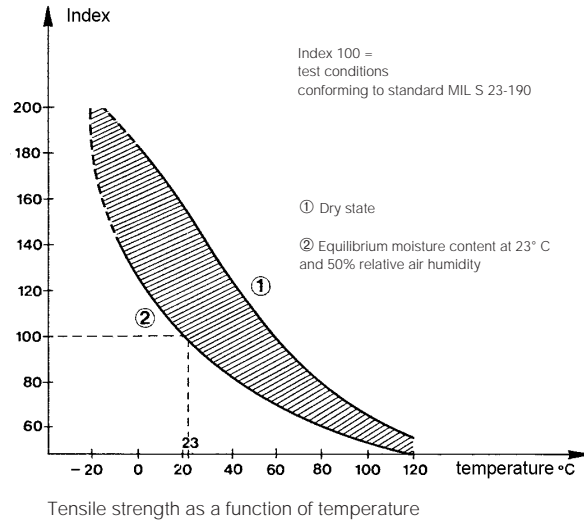


320 61



320 63

**2. TECHNICAL CHARACTERISTICS** (continued)



**3. MATERIAL CHARACTERISTICS**

|  |             |           |
|--|-------------|-----------|
| Polyamide 6/6 .....  | clear       | black     |
| Moisture intake.....   | 2.4 %       | 2.4 %     |
| Temperatures   |             |           |
| • permanent operating: > 20,000 hrs .....  | 85° C       | 105° C    |
| • continuous operating: > 1,000 hrs .....  | 100° C      | 120° C    |
| • permitted in peak conditions .....   | 130° C      | 150° C    |
| • resistance to cold:  |             |           |
| - use .....  | - 40° C     | - 40° C   |
| - assembly .....   | - 10° C     | 0° C      |
| Limit oxygen index (LOI) NF T 51-071 - ASTM D 2863 .....   | 29 %        | 27.5 %    |
| Corrosion by fumes - NF C 20-453 .....   | < 5 %       | < 5 %     |
| Flame resistance - UL 94 .....   | 94 - V2     | 94 - V2   |
| Incandescent wire test NF C 20-455 .....   | 850° C      | 850° C    |
| UV resistance - EDF test .....   | unprotected | protected |
| Materials without halogen  |             |           |
| Resistance to chemical agents, at a temperature of 23° C (valid for clear and black ties) +: excellent resistance, 0: moderate resistance, -: low resistance |             |           |
| Acids:   |             |           |
| • mineral  |             |           |
| - hydrochloric ≤ 10 % .....  | 0           |           |
| - sulphuric ≤ 10 % .....   | -           |           |
| - nitric - all concentrations .....  | -           |           |
| • organic  |             |           |
| - acetic 10 % .....  | 0           |           |
| - formic 10 % .....  | -           |           |
| Bases:   |             |           |
| • mineral .....  | +           |           |
| • organic .....  | +           |           |
| Oils .....   | +           |           |
| Fats .....   | +           |           |
| Petroleum products .....   | +           |           |
| Chlorinated solvents .....   | +           |           |
| Phenols .....  | -           |           |
| Alcohols .....   | +           |           |
| Hydrocarbons .....   | +           |           |
| Mineral salts .....  | +           |           |

# Colring cable ties

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## 4. CONFORMITY TO STANDARDS AND APPROVALS

Materials: standard ASTM D 4066-82  
class 1 for clear material  
class 2 for black material  
Cable ties: standard MIL S 23-190  
standard MIL MS 3-367 for Cat. Nos. 320 12/15/22/24/29 320 30/37/42/43/44/49/50/52/54/55/57/58  
standard MIL MS 3-368 for Cat. Nos. 320 61/63  
standard UL 1565 for all Cat. Nos. except 320 40/50  
(approval UL n° E 73 369)

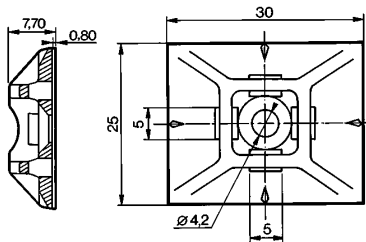
## 5. INSTALLATION

Colring cable ties are supplied in weatherproof packaging in order to guarantee their integrity whatever the storage conditions  
Colring cable ties are installed manually  
For widths 2.4 - 3.5 and 4.6 mm, the cable tie is tightened and any excess length cut using Legrand pliers P 46 - Cat. No. 320 88 - which comply with standard MIL MS 90-387  
For width 7.6 mm, we recommend Colson pliers - Cat. No. 319 96

## 6. ACCESSORIES

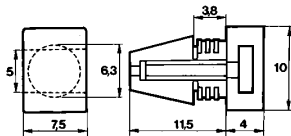
### 6.1 Self-adhesive mounting base

Cat. No. 320 65: clear  
Cat. No. 320 67: black  
Material: polyamide 6.6  
For cable ties with a max. width of 4.6 mm  
Quick-setting adhesive:  
• Maximum resistance after 48 hrs polymerization for fixing on clean and grease-free surface, applying a force of 5 daN for 5 seconds  
• Ambient fixing temperature: between 20 and 40° C, below 10° C not recommended



### 6.2 Clip-on mounting base

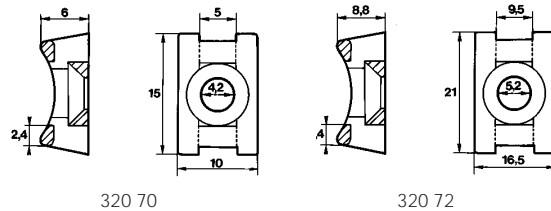
Cat. No. 320 76  
Material: polyamide 6.6 clear  
For cable ties with a max. width of 4.6 mm  
For sheet steel thickness 0.5 to 3 mm  
Drilling diameter: 6 to 6.35 mm



## 6. ACCESSORIES (continued)

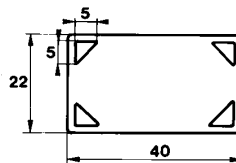
### 6.3 Screw fixing mounting base

Central fixing  
Cat. No. - 320 70 for cable ties with a max. width of 4.6 mm, screw  $\varnothing$  4 mm  
- 320 72 for cable ties with a max. width of 7.6 mm, screw  $\varnothing$  5 mm  
Material: polyamide 6.6 clear



### 6.4 Identification plates

Cat. No. 320 85  
For cable ties with a max. width of 4.6 mm  
Marking using black felt-tip pen with indelible ink Cat. No. 372 98



### 6.5 Colring pliers

Cat. No. 320 88