


**IBOCO®**

# Wire Duct – Flexible

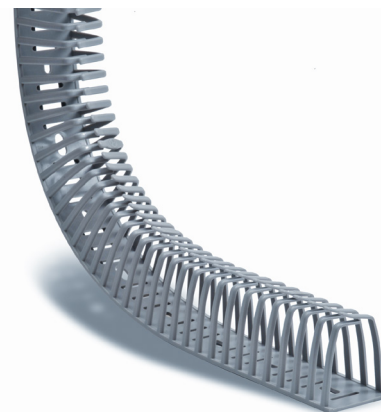
## Polypropylene - Flexible - Self-Adhesive DN Series

### Overview

Dinosaur self-adhesive flexible duct is ideal for transporting wiring to cabinet doors from control panel interiors (for that part of the cable run that leans against the side of the control cabinet) and for electronic equipment. It is resilient and can be bent and twisted without breaking. Manufactured from low-smoke, halogen-free polypropylene material that carries a UL 94V-0 flammability rating and CSA approval.

### Features

- Easily add or remove individual wires from total wires within the duct
- Enclose and secure wiring or cables without requiring duct cover
- Convenient for applications requiring frequent access to wiring
- Easy addition or removal of wires after termination without special tools
- Use in extreme operating conditions (maximum temperature 176°F [80°C])
- Withstands mechanical stress when installed (i.e. earthquake, falling equipment)
- Cut to desired length using scissors or knife
- Rivet R4 may be used to mount on panel
- Duct base perforation according to DIN 43659 and DIN VDE 0660 TEIL 506



UL Recognized file # E123572



### Gray Flexible Self-Adhesive DN Series

| Part Number              | Qty | Price    | Width x Height<br>inches [mm]  | Length per piece<br>inches [mm] | Total Actual Length<br>ft [m] | Drawing<br>Link     |
|--------------------------|-----|----------|--------------------------------|---------------------------------|-------------------------------|---------------------|
| <a href="#">DN25AG</a>   | 24  | \$152.00 | 0.50 x 0.75<br>[12.7 x 19.05]  | 19.7 [500]                      | 39.37 [12]                    | <a href="#">PDF</a> |
| <a href="#">DN25AG-1</a> | 1   | \$8.25   |                                |                                 | 1.64 [0.5]                    |                     |
| <a href="#">DN35AG</a>   | 24  | \$214.00 | 1.00 x 1.38<br>[25.4 x 35.05]  |                                 | 39.37 [12]                    | <a href="#">PDF</a> |
| <a href="#">DN35AG-1</a> | 1   | \$11.00  |                                |                                 | 1.64 [0.5]                    |                     |
| <a href="#">DN45AG</a>   | 14  | \$167.00 | 1.38 x 1.75<br>[35.05 x 44.45] |                                 | 22.96 [7.0]                   | <a href="#">PDF</a> |
| <a href="#">DN45AG-1</a> | 1   | \$14.50  |                                |                                 | 1.64 [0.5]                    |                     |

### Adhesive-Backed Tape Specifications

|                                                 |                                                                           |
|-------------------------------------------------|---------------------------------------------------------------------------|
| <b>Material</b>                                 | Double coated PET film backing, modified acrylic adhesive                 |
| <b>Applicable Mounting Surfaces</b>             | Paper, cardboard, wood, glass, ceramics, metal, rubber, and many plastics |
| <b>Recommended Tape Application Temperature</b> | 65 to 95°F [18 to 35°C]                                                   |
| <b>Thickness</b>                                | 0.2 mm                                                                    |

Note: Make sure the surface is perfectly clean and dry before applying self-adhesive wire duct.

### Wire Fill Capacity

| Nominal Duct Size (inches) | Wire Gauge                                                                     |          |          |          |          |          |
|----------------------------|--------------------------------------------------------------------------------|----------|----------|----------|----------|----------|
|                            | 12AWG                                                                          | 14AWG    | 16AWG    | 18AWG    | 22AWG    |          |
|                            | Insulation Thickness [inches]                                                  |          |          |          |          |          |
|                            | 1/32                                                                           | 3/64     | 1/32     | 1/32     | 1/32     | 1/64     |
|                            | OD-0.158                                                                       | OD-0.165 | OD-0.139 | OD-0.125 | OD-0.113 | OD-0.065 |
|                            | Recommended Maximum Number of Wires per Wire Duct (based on 50% fill capacity) |          |          |          |          |          |
| 1/2 x 1/2                  | 6                                                                              | 5        | 7        | 9        | 11       | 33       |
| 3/4 x 3/4                  | 13                                                                             | 12       | 6        | 20       | 25       | 75       |
| 1/2 x 3/4                  | 8                                                                              | 8        | 11       | 13       | 16       | 50       |
| 1 x 1                      | 23                                                                             | 21       | 29       | 36       | 44       | 133      |
| 1 x 1 3/8                  | 31                                                                             | 28       | 40       | 50       | 61       | 183      |
| 1 1/2 x 1 1/2              | 51                                                                             | 46       | 65       | 81       | 99       | 299      |
| 1 3/8 x 1 3/4              | 54                                                                             | 50       | 70       | 87       | 106      | 321      |

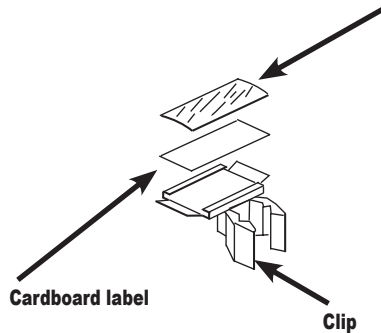

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# Wire Duct – Accessories

## Duct Marking Tags

| Part Number | Price   | Description                                                                                                                                    | Qty |
|-------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>DM1</b>  | \$31.00 | Single-width white cardboard identification label for wire duct. Supplied with black plastic mounting clip and transparent plastic cover slide | 50  |

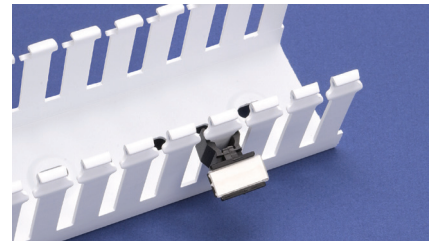
Note: **DM1** marking tags can only be used with T1 series wire duct.



## Identification Tags

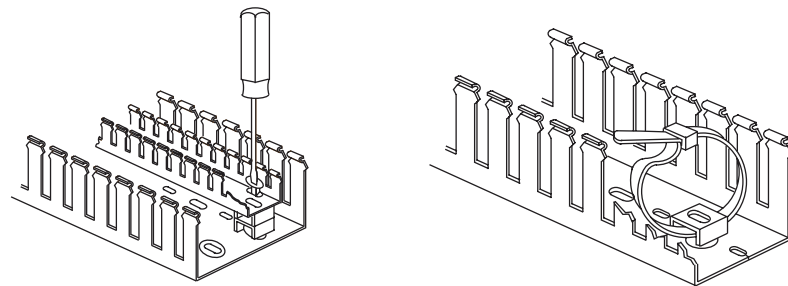
Allowing easy identification of control gear and switchgear, these tags are mounted by snapping the clip onto the sidewall finger segments of the duct. No gluing - no drilling! After installation, they need not be removed during maintenance or any work which involves the removal of the covers.

Note: Take care that clip is installed above the wires coming out to the sidewall slots.



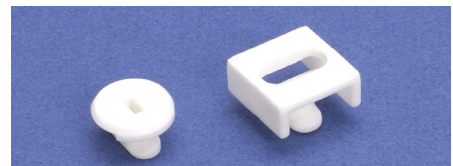
## Mounting Devices

| Part Number | Price   | Description                                                                          | Qty |
|-------------|---------|--------------------------------------------------------------------------------------|-----|
| <b>ZP1</b>  | \$16.50 | Round, white polyamide 'button' used to mount components and separators inside duct. | 100 |
| <b>ZP2</b>  | \$20.00 | Square white polyamide cable tie mount used to tighten a wire bundle inside duct.    | 50  |



## Mounting Inserts

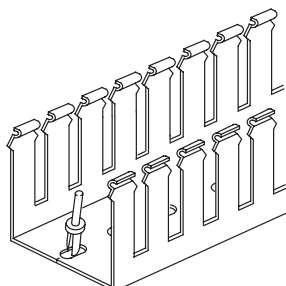
We carry mounts in two styles: ZP1 for mounting components and SEP-E separators inside duct, or for mounting small sizes of duct inside larger sizes (for separation of circuits with different functions); and ZP2, which is used with a cable tie to secure a wire bundle inside the duct.



## Wire Duct Rivets and Rivet Tools

| Part Number | Price   | Description                                                                                                   | Qty |
|-------------|---------|---------------------------------------------------------------------------------------------------------------|-----|
| <b>R4*</b>  | \$19.00 | Blue polyamide rivet used to install all types of wire duct with standard 4.5 mm [0.17 in] mounting holes.    | 250 |
| <b>B4</b>   | \$50.00 | Red polyamide rivet tool used to install R4 rivets.                                                           | 1   |
| <b>R6*</b>  | \$22.00 | Natural polyamide rivet used to install all types of wire duct with standard 6.5 mm [0.26 in] mounting holes. | 250 |
| <b>B6</b>   | \$50.00 | Yellow polyamide rivet tool used to install R6 rivets.                                                        | 1   |

\* R4 drill hole size - 5/32" (4mm), R6 drill hole size - 7/32" [5.5 mm]  
When using with Flexible wire duct, only the R4 rivet will currently work.



## Rivets and Rivet Tools

Wire duct rivets install quickly and easily with the companion rivet tool, offering good temperature resistance and excellent mechanical properties. They can be used to install all types of wire duct with standard mounting holes.




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# Wire Duct – Material Specifications

| Material Specifications            |               |                 |                    |                  |                       |                       |                     |                              |
|------------------------------------|---------------|-----------------|--------------------|------------------|-----------------------|-----------------------|---------------------|------------------------------|
| Materials                          | Test Standard | Unit of Measure | Rigid PVC          | Polypropylene    | PVC Molded Components | Polyamide 6           | Polyethylene        | Flame Retardant Polyethylene |
| Technical Characteristics          |               |                 |                    |                  |                       |                       |                     |                              |
| Chemical/Physical Properties       |               |                 |                    |                  |                       |                       |                     |                              |
| Specific Gravity                   | ASTM D792     | g/cm³           | 1.55               | 1.01             | 1.32                  | 1.14                  | 0.92                | 0.97                         |
| H <sub>2</sub> O 73.4°F Absorption | ISO 62        | %               | < 0.1              | 0.02             | < 0.1                 | 2.5                   | < 0.1               | < 0.1                        |
| Formaldehyde                       | –             | ppm             | absent             | absent           | absent                | absent                | absent              | absent                       |
| Cadmium                            | –             | ppm             | absent             | absent           | absent                | absent                | absent              | absent                       |
| Mechanical Properties              |               |                 |                    |                  |                       |                       |                     |                              |
| Tensile Stress at Break            | ASTM D638     | MPa             | 39                 | 28               | 30                    | 45                    | 17                  | 15                           |
| Traction Strength                  | ASTM D638     | MPa             | 44                 | 27               | 27                    | 55                    | 9.5                 | 9                            |
| Elongation at Break                | ASTM D638     | %               | 130                | 200              | 97                    | 250                   | 400                 | 600                          |
| Modulus of Elasticity at Traction  | ASTM D638     | MPa             | 4400               | n/a              | –                     | 950                   | –                   | 240                          |
| Modulus of Elasticity at Flexion   | ASTM D790     | MPa             | 3200               | 2100             | –                     | 1100                  | 210                 | 130                          |
| Thermal Properties                 |               |                 |                    |                  |                       |                       |                     |                              |
| Temperature VICAT                  | ASTM D1525    | °C              | 84                 | 95               | 70                    | 198                   | 89                  | –                            |
| HDT                                | ASTM D648     | °C              | 72                 | 60               | 60                    | 185                   | –                   | –                            |
| Coefficient of Expansion           | ASTM D696     | K <sup>-1</sup> | 6x10 <sup>-5</sup> | 10 <sup>-5</sup> | 8x10 <sup>-5</sup>    | 8-10x10 <sup>-5</sup> | 22x10 <sup>-5</sup> | 10 <sup>-5</sup>             |
| Specific Heat                      | ASTM C351     | kJ/kgK          | 0.94               | n/a              | 1.24                  | 1.7                   | –                   | –                            |
| Thermal Conductivity               | ASTM C177     | W/mK            | 0.14               | 0.21             | 0.14                  | 0.29                  | 0.32                | 0.32                         |
| Electrical Properties              |               |                 |                    |                  |                       |                       |                     |                              |
| Dielectric Constant                | ASTM D150     | –               | 3.2 - 4.0          | 2.5              | 3.2                   | 5.0                   | 2.4                 | 2.3                          |
| Dielectric Strength                | IEC 243       | kV/mm           | 70                 | 25               | 60                    | 35                    | 90                  | 90                           |
| Surface Resistance                 | IEC 93        | Ω               | 10 <sup>13</sup>   | 10 <sup>13</sup> | 10 <sup>13</sup>      | 5x10 <sup>11</sup>    | 10 <sup>13</sup>    | 10 <sup>13</sup>             |
| Self-Extinguishing                 |               |                 |                    |                  |                       |                       |                     |                              |
| Self-Extinguishing UL 94 1.6 mm    | UL 94         | –               | V-0                | V-0              | V-0                   | V-2                   | HB                  | V-2                          |
| Self-Extinguishing UL 94 3.2 mm    | UL 94         | –               | V-0                | V-0              | V-0                   | V-2                   | HB                  | V-2                          |
| Hot Wire Test (2 mm)               | IEC 695-2-1   | °C              | 960                | 960              | 960                   | 650                   | 650                 | 850                          |
| Oxygen Number                      | ASTM D2863    | %               | 43                 | 30               | 34                    | 25                    | –                   | 25                           |