

Integrated Panel Management





IBOCO CORPORATE PROFILE

Since 1986 the IBOCO Corporation has led Italy-based Bocchiotti Group's marketing operations in the United States. The Company, located in Edison, New Jersey is headed by Andrew Kwarciak, President, and Cesare Bocchiotti, Vice President.

BOCCHIOTTI CORPORATE PROFILE

Founded in 1965, IBOCO parent Company BOCCHIOTTI is widely recognized throughout the world as one of the major manufacturers of wire management products, raceways and conduits.

The Bocchiotti Group with more than 500 employees is headquartered in Genoa, Italy and has production plants and warehouses in 8 different locations throughout the Country.

The fully automated systems enable the Company to produce over 170 million feet of wiring duct and raceway per year in 25 different product lines to 38 markets in 37 Countries.

High Standard Products for Advanced and Time-Saving Panel Assembling

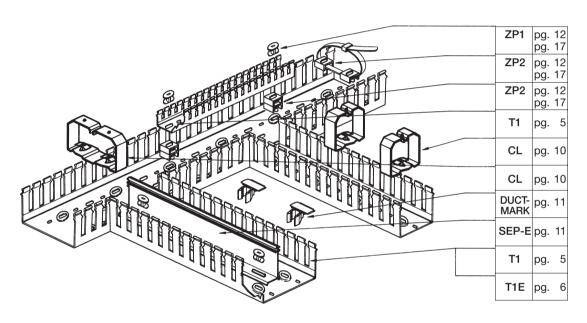
Every item in the rapidly expanding product line is disigned and produced to meet the needs of original equipment manufacturers, installers, panel builders, and system integrators and complies with UL, CSA, CE and most international certifications. IBOCO's extensive catalog features several product lines: DIN rail, DIN rail accessories, T1 slotted duct, T1-E slotted duct, T1-K black slotted duct, TS solid duct, DINOSAUR flexible duct, cable ties and attachments, Spiralite, braided expandable sleevings, installation tools and over 40 accessories. The Company's integrated panel management systems continue to evolve and grow to meet the changing needs of panel builders. However, its overriding philosophy remains unchanged: to simplify and accelerate panel building operations including wire identification, retention and separation for panel builders, OEMs', and system integrators in a variety of industries.

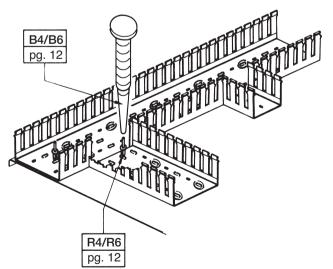


A Very Extensive Line of Wiring Duct and Components

IBOCO offers an integrated system of specific solutions for panel builders' needs.

This duct system features 4 styles of duct with up to 35 duct sizes, a complete line of Din rails, and over 40 components and accessories. This combination allows for the simplification and acceleration of panel building operations such as wire retention, identification of equipment/circuits, circuit/wire separation, and the direct mounting of duct and equipment on Din rails.





The IBOCO duct system

simplifies and decreases the time required for the planning and construction of control panels by offering the ability to:

- contain the wires
- identify the switchgear
- mount the wiring duct directly onto mounting rail or internal mounting plate
- build the frame of the panel board
- retain the wires
- achieve extremely compact wiring configurations
- separate circuits with different voltages and/or functions
- form wire bundles



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(1) 71

C€

DUCT SERIES

Material

Rigid PVC. self-extinguishing

Color

Light GREY RAL 7030 WHITE

Standard Length

6 Feet 6 3/4 Inches

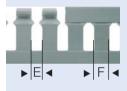
Standard Unit

Duct complete with cover

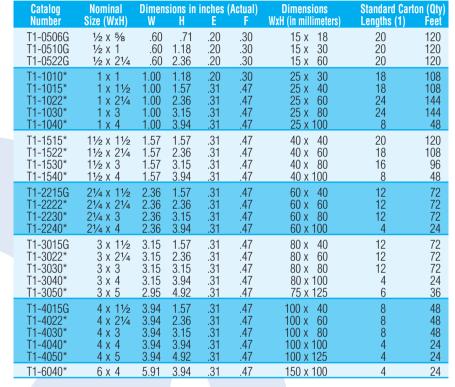
THE MOST COMPREHENSIVE RANGE



NOMINAL %"-1"



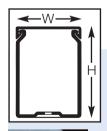
All wiring ducts come complete with cover. Wiring duct covers can be sold separately: see page 8 and IBOCO Corp. Price List.



Example: T1-0510 G = 1/2"x 1"light GREY duct with cover

- (1) Each standard length is actually 6'6 3/4" but is counted as 6 feet for packaging and pricing
- * Color add suffix "G" for light GREY "W" for WHITE

ADHESIVE BACKING - add suffix "A" to catalog number - contact sales office for pricing (see page 22)





Non-slip cover design of minimun encumbrance and maximum grip.



Restricted slot opening for wire retaining.



Two predetermined breaklines:

- for breaking off and removal of sidewall finger segments only.
- for removal of sidewall finger and base segments.



Burr-free edges.



Recess boss for rapid mounting of components.

(1) C€ **71**



DUCT SERIES

Material

Rigid PVC, self-extinguishing

Color

Light GREY RAL 7030 WHITE

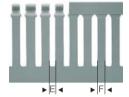
Standard Length

6 Feet 6 3/4 Inches

Standard Unit

Duct complete with cover

Catalog Number	Nominal Size (WxH)	Dimen:	sions in H	inches (Actual) F	Dimensions WxH (in millimeters)	Standard Cart Lengths (1)	on (Qty) Feet
T1E-1015*	1 x 1½	1.00	1.57	.16	.24	25 x 40	18	108
T1E-1022*	1 x 2¼	1.00	2.36	.16	.24	25 x 60	24	144
T1E-1030*	1 x 3	1.00	3.15	.16	.24	25 x 80	24	144
T1E-1515*	1½ x 1½	1.57	1.57	.16	.24	40 x 40	20	120
T1E-1522*	1½ x 2¼	1.57	2.36	.16	.24	40 x 60	18	108
T1E-1530*	1½ x 3	1.57	3.15	.16	.24	40 x 80	16	96
T1E-1540*	1½ x 4	1.57	3.94	.16	.24	40 x 100	8	48
T1E-2215*	2½ x 1½	2.36	1.57	.16	.24	60 x 40	12	72
T1E-2222*	2¼ x 2¼	2.36	2.36	.16	.24	60 x 60	12	72
T1E-2230*	2¼ x 3	2.36	3.15	.16	.24	60 x 80	12	72
T1E-2240*	2¼ x 4	2.36	3.94	.16	.24	60 x 100	4	24
T1E-3015G	3 x 1½	3.15	1.57	.16	.24	80 x 40	12	72
T1E-3022*	3 x 2¼	3.15	2.36	.16	.24	80 x 60	12	72
T1E-3030*	3 x 3	3.15	3.15	.16	.24	80 x 80	12	72
T1E-3040*	3 x 4	3.15	3.94	.16	.24	80 x 100	4	24
T1E-4015G	4 x 1½	3.94	1.57	.16	.24	100 x 40	8	48
T1E-4022G	4 x 2¼	3.94	2.36	.16	.24	100 x 60	8	48
T1E-4030*	4 x 3	3.94	3.15	.16	.24	100 x 80	8	48
T1E-4040*	4 x 4	3.94	3.94	.16	.24	100 x 100	4	24

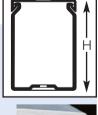


Example: T1E-1015 G = 1"x11/2" light GREY duct with cover

- (1) Each standard length is actually 6'6 3/4" but is counted as 6 feet for packaging and pricing
- * Color add suffix "G" for light GREY "W" for WHITE

ADHESIVE BACKING - add suffix "A" to catalog number - contact sales office for pricing (see page 22)

All wiring ducts come complete with cover. Wiring duct covers can be sold separately: see page 8 and IBOCO Corp. Price List.





Restricted slot

opening for wire retaining.



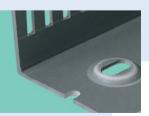




- for breaking off and removal of sidewall finger segments only.
 - for removal of sidewall
- finger and base segments.



Burr-free edges.



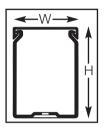
Recess boss for rapid mounting of components.



Non- slip cover design of minimun encumbrance and maximum grip.



DUCT SERIES



Catalog	Nominal	Dimen	sions in	inches ((Actual)	Dimensions	Standard Cart	on (Qty)
Number	Size (WxH)	W	H		F	WxH (in millimeters)	Lengths (1)	Feet
T1-1040K	1 x 4	1.00	3.94	.31	.47	25 x 100	8	48
T1-1530K	1½ x 3	1.57	3.15	.31	.47	40 x 80	16	96
T1-2222K	2½ x 2½	2.36	2.36	.31	.47	60 x 60	12	72
T1-2240K	2½ x 4	2.36	3.94	.31	.47	60 x 100	4	24
T1-3030K	3 x 3	3.15	3.15	.31	.47	80 x 80	12	72
T1-3040K	3 x 4	3.15	3.94	.31	.47	80 x100	4	24
T1-3050K	3 x 5	2.95	4.92	.31	.47	75 x125	6	36
T1-4040K	4 x 4	3.94	3.94	.31	.47	100 x100	4	24
T1-4050K	4 x 5	3.94	4.92	.31	.47	100 x125	4	24

Material

Rigid PVC, self-extinguishing

Color

BLACK

Standard Length

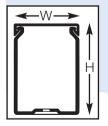
6 Feet 6 3/4 Inches

Standard Unit

Duct complete with cover







Catalog	Nominal	Dimen:	sions in	inches	(Actual)	Dimensions	Standard Carto	on (Qty)
Number	Size (WxH)	W	H	E	F	WxH (in millimeters)	Lengths (1)	Feet
T1-1010B	1 x 1	1.00	1.18	.20	.30	25 x 30	18	108
T1-1022B	1 x 2½	1.00	2.36	.31	.47	25 x 60	24	144
T1-1030B	1 x 3	1.00	3.15	.31	.47	25 x 80	24	144
T1-1515B	1½ x 1½	1.57	1.57	.31	.47	40 x 40	20	120
T1-1522B	1½ x 2¼	1.57	2.36	.31	.47	40 x 60	18	108
T1-1530B	1½ x 3	1.57	3.15	.31	.47	40 x 80	16	96
T1-2215B	21/4 x 11/2	2.36	1.57	.31	.47	60 x 40	12	72
T1-2222B	21/4 x 21/4	2.36	2.36	.31	.47	60 x 60	12	72
T1-2230B	21/4 x 3	2.36	3.15	.31	.47	60 x 80	12	72
T1-3030B	3 x 3	3.15	3.15	.31	.47	80 x 80	12	72
T1-3050B	3 x 5	2.95	4.92	.31	.47	75x 125	6	36
T1-4030B	4 x 3	3.94	3.15	.31	.47	100 x 80	8	48
T1-4040B	4 x 4	3.94	3.94	.31	.47	100 x100	4	24

Blue color duct recognized for intrinsic safe circuits

Material Rigid PVC,

self-extinguishing

Color

BLUE RAL 5015

Standard Length

6 Feet 6 3/4 Inches

Standard Unit

Duct complete with cover

NOTE: 1) Each standard length is 6' 634" but is considered as 6 feet for the purpose of pricing and packaging.

TS

C€

DUCT SERIES

Material

Rigid PVC, self-extinguishing

Color

Light GREY RAL 7030

Standard Length

6 Feet 6 3/4 Inches

Standard Unit

Duct complete with cover

Catalog Number	Nominal Size (WxH)	Dimensions in W	inches (Actual) H	Dimensions WxH (in millimeters)	Standard Cart Lengths (1)	on (Qty) Feet
TS-0506G	½ X %	.60	.71	15x 18	20	120
TS-0510G	½ X 1	.60	1.18	15x 30	20	120
TS-1010G	1 x 1	1.00	1.18	25 x 30	18	108
TS-1015G	1 x 1½	1.00	1.57	25 x 40	18	108
TS-1030G	1 x 3	1.00	3.15	25 x 80	24	144
TS-1515G	1½ x 1½	1.57	1.57	40 x 40	20	120
TS-1522G	1½ x 2¼	1.57	2.36	40 x 60	18	108
TS-1530G	1½ x 3	1.57	3.15	40 x 80	16	96
TS-2222G	21/4 x 21/4	2.36	2.36	60 x 60	12	72
TS-2230G	21/4 x 3	2.36	3.15	60 x 80	12	72
TS-3022G	3 x 2½	3.15	2.36	80 x 60	12	72
TS-3030G	3 x 3	3.15	3.15	80 x 80	12	72
TS-3040G	3 x 4	3.15	3.94	80 x 100	4	24
TS-4030G	4 x 3	3.94 3.94	3.15	100x 80	8	

Optional adhesive backing available: add suffix "A" to catalog number. Contact the IBOCO sales office for pricing (see page 22).

COV

COVER FOR T1 T1-E / TS

Material

Rigid PVC, self-extinguishing

Color

Light GREY RAL 7030 WHITE

Catalog Number	Standard Ca Lengths (1)	rton (Qty.) Feet
COV-05*	25	150
COV-10*	25	150
COV-15*	25	150
COV-22*	25	150
COV-30*	25	150
COV-40*	20	120
COV-60*	20	120

* Color - add suffix "G" for light GREY RAL 7030 "W" for WHITE

For blue or black covers contact sales office

(1) Each standard length is actually 6' 63/4" but is counted as 6 feet for packaging and pricing

Wire Fill Capacity T1/T1-E

Nominal Duct Size	12 AWG		AWG	16 AWG	18 AWG	22 AWG
	1/32 OD158	3/64 OD165	ATION THICH 1/32 OD139	(NESS 1/32 OD125	1/32 0D113	1/64 OD065
½ X 5/8	7	6	9	11	14	43
½ X 1	12	11	16	20	24	74
½ X 21/4	25	23	33	40	50	150
1x1	22	21	29	36	44	134
1x1½	31	28	39	48	59	180
1x2¼	45	40	57	71	85	261
1x3	59	53	75	92	113	341
1x4	72	66	93	115	141	426
1½x1½	51	46	65	81	99	299
1½x2¼	77	70	98	121	148	449
1½x3	102	92	130	160	196	593
1½x4	125	113	159	197	241	729
2½x1½	78	70	99	123	150	453
2½x2¼	114	103	146	180	221	667
2½x3	156	141	199	246	302	912
2¼x4	194	176	247	306	375	1132
3x1½	105	95	134	165	203	612
3x2¼	159	144	203	251	307	928
3x3	214	193	272	337	412	1246
3x4	267	242	341	421	515	1558
3x5	309	283	399	493	604	1826
4x1½	132	120	169	208	255	771
4x2¼	201	182	256	316	387	1171
4x3	270	244	344	425	520	1573
4x4	336	305	429	531	650	1963
4x5	415	381	536	663	812	2455
6x4	512	464	653	807	988	2987

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Recommended Maximum Number of Wires To Be Used per Wiring Duct (MTW) BASED ON 60% FILL CAPACITY

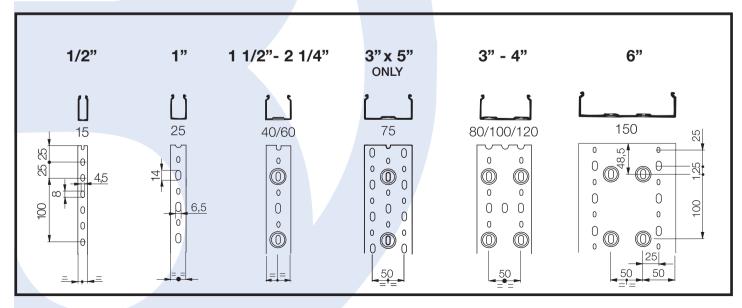
Duct-System Base Perforation According to DIN 43659 and to DIN VDE 0660 TEIL 506

The base perforation of the wiring duct series T1 and T1E allows mounting on the panel with DUCTFIX R6 or R4 or on Din mounting rails.

The recess bosses in the base of duct series T1 and T1E permit rapid mounting of components CL, ZP2 and SEP-E inside the wiring duct.

All dimensions shown are in millimeters. For conversion to inches see below. (25.4 millimeters = 1 inch)

millimeters	= Inches	millimete	rs = Inches
4.5	.177	50	1.969
6.5	.256	60	2.363
8	.315	80	3.150
14	.551	100	3.937
15	.591		
25	.984		
40	1.575		



CL

WIRE RETAINERS

Material

Rigid PVC, self-extinguishing

Color

Dark GREY RAL 7021

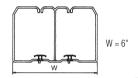
CL Wire Management Retainers

- · Retains wires during installation
- Provides additional strain relief of fingers
- Eliminates bulging against sidewall

Catalog	Number	Pieces per
Number	Size (WxH)	Carton
CL-1515	1½x1½	40
CL-1522	1½x2¼	40
CL-1530	1½x3	20
CL-2215	21/4×11/2	40
CL-2222	21/4×21/4	20
CL-2230	21/4×3	20
CL-2240	21/4×4	20
CL-3015	3×1½	20
CL-3022	3×2¼	10
CL-3030	3×3	10
CL-3040	3×4	10
CL-4015	4×1½	10
CL-4022	4×2¼	10
CL-4030	4×3	10
CL-4040	4×4	5
CL-6040	6×4	5



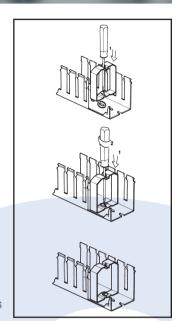




Catalog number indicates to which duct size (W x H) the CL will fit.

CL wire retainers come complete with mounting elements.

NEW DESIGN avoids fall out of wires especially in ceiling installations.



TR1/TR1-E

WIRE RETAINERS PREDETERMINED BREAKLINES

Material

Rigid PVC, self-extinguishing

Color BLACK

Catalog	Pieces per
Number	Carton
TR1*	50
TR1E**	50

* For T1 ** For T1-E A simple to use wire retainer that mounts on the duct fingers. Has predetermined scorelines so that "one size fits all". The TR1 and the TR1-E can be used on the 6", 4", 3",2¼" and 1½" T1 and T1-E duct. The quick solution for every panel builder during initial panel wiring and maintenance operation.





SEP-E

SEPARATORS

Material

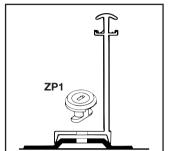
Rigid PVC, self-extinguishing

Color

Light GREY RAL 7030

Standard Length

6 Feet 6 3/4 Inches



SEP-E Mounting detail



SEP-E allows the physical separation of circuits with different voltages and/or functions.



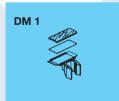


DUCTMARK





Ductmark is mounted by snapping it onto the sidewall finger segments taking care that it is placed above the wires coming out to the sidewall slots.



Catalog	Pieces per
Number	Carton
DM 1	50

Cannot be used on T1-E Duct.

Resolves in a practical and functional manner the problem of circuit identification.

DUCTMARK

- need not be removed during maintenance or alteration work which involves the removal of the covers
- is always clearly visible

IDENTIFICATION TAG

Material Support and Insert

Polyamide 6

Color BLACK

Slide

Transparent Polystyrene

Label

White cardboard

DUCTFIX

WIRING DUCT RIVETS

Material

Polyamide 6

Color

R4 - BLUE R6N - NATURAL R60 - ORANGE

Catalog	Pieces per
Number	Carton
R4	250
R6N	250
R60	250

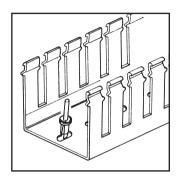
MAIN FEATURES

- Elastic Vibration dampening head
 Good temperature resistance
 R4 use B4 or RT4 tool
 R6N use R6 tool
- Excellent mechanic properties
- Extremely short installation time
- Insulating Functional Easy To Apply

DUCTFIX

- Installs quick and easy using the B4 or B6 rivet tool.
- Can be used to install all types of wiring duct with standard mounting holes.
- Hole size R4 5/32" (4 mm) R6 7/32" (5.5 mm)

- R60 use RT6 tool



B4-B6 4 - RT6

RIVET TOOLS

Color

B4 - RED RT4 - BLUE B6 - YELLOW RT6 - ORANGE

Catalog Number	Pieces per Carton
B4	1
B6	1
RT4	1
RT6	1

Functional and Sturdy



MOUNTING INSERTS CABLE ATTACHMENTS

Material

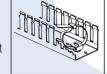
Polyamide 6

Color WHITE

Catalog Number	Pieces per Carton
ZP 1	100
ZP 2	50



With a simple guarter turn ZP2 can be mounted inside duct. By stacking, mounting levels at different heights are achieved. For tightening a wire bundle inside duct, pass a cable tie through ZP2.





With a simple guarter turn, ZP1 is used to mount components and SEP-E separators inside duct. Also ZP1 can be used to mount smaller sizes of duct inside larger sizes, thus achieving separation of circuits with different voltages and/or functions.



*9*1

Applicable to white Dinosaur only

Dinosaur Duct is a unique product offering from IBOCO that is a flexible, resilient and efficient harnessing solution to your wiring needs. For wiring to cabinet doors, from control panels and for electronic equipment.

For that part of the cable run that leans against the side of the control

- Available in four sizes with adhesive tape.

 Due to the flexibility of the material individual wires can easily be added, or removed from total wires within the duct.

 Since Dinosaur has no cover it can accommodate cables in restricted
- space applications, and also effectively removes the need for cable ties.
- It can be used in extreme operating conditions (i.e. max. temp. up to 176°F) and has excellent resistance to radiation if exposed to a nuclear environment.
- Dinosaur withstands mechanical stress when installed (i.e. earthquake, falling equipment) while in the event of fire does not emit corrosive, nor toxic gases, and smoke development is minimal.
- The duct can be cut to desired length using scissors or knife.

When applying the Dinosaur with adhesive tape, (DN-10A, DN-20A, DN-30A, DN-40A) it is necessary to make sure that the surface is perfectly clean and dry.

Plus Efficiency

- Cut labor by up to 75%.
- Puts an end to cable ties and spiral wrap.
- Individual wires can be added or removed from a group as often as necessary-effortlessly.

Plus Versatility

Ideal for wiring to cabinet doors, from control panels, and for electronic equipment.

Catalog	Nominal	Lengths*
Number	Size	per Carton
DN-10A**	1/2 X 1/2	42
DN-20A**	3/4 X 3/4	64
DN-30A**	1 X 1	36
DN-40A**	11/2 X 11/2	20

- Each length is 19.7 inches (500 mm)
- ** Color: add suffix "G" for GREY or "W" for WHITE





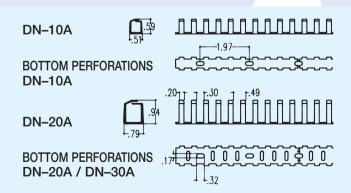
FLEXIBLE DUCTS SELF-ADHESIVE

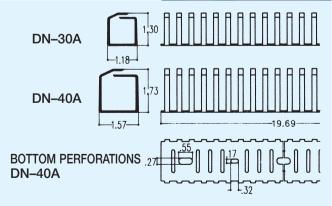
Material

Polypropylene self-extinguishing, non-toxic

Color GREY RAL 7030 WHITE

Standard Length 19.7 inches (500 mm)





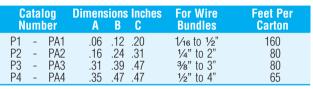
SPIRALITE

UNIVERSAL SPIRAL WRAPS

Material

Polyethylene Natural (P) Polyethylene self-extinguishing (PA)

According to ASTM D 635

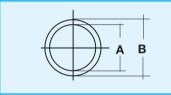


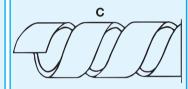
Black available, contact sales office.

Essential

- for fast and economical grouping of wire bundles.
- for joining groups of wires and/or tubing for fluidic/pneumatic machine control.
- for flexible connections between panel and door.

Robust, yet simple to install, it gives mechanical protection to the wire bundle which remains flexible although rigidly held. Easily removed, it can be re-used in the case of temporary wiring.





SLEEVING

BRAIDED EXPANDABLE SLEEVING

Material

Polyester

Color Black - Grey



Catalog Number	Nominal I.D. Inches (mm)	Nominal Diameter Range _{Inches} (mm)	QTY Per Pack Feet
TY-5*	.197 (5)	.157 (4) to .472 (12)	325
TY-10*	.375 (10)	.315 (8) to .866 (22)	325
TY-20*	.750 (20)	.630 (16) to 1.378 (35)	164
TY-30*	1.125 (30)	.984 (25) to 1.890 (48)	164
TY-50*	2.000 (50)	1.575 (40) to 2.835 (72)	164

Polyester - Halogen Free - Rated -58°F to +302°F (-50°C to +150°C) * Color - add suffix "G" for GREY and "B" for BLACK

Product Characteristics

Operating temperature: -50°C to $+150^{\circ}\text{C}$ Physical properties: Self-extinguishing for UL 94V2

Physical properties: Self-extinguish Maximum elongation: 42% Diameter expansion: 100% Other: Halogen - free

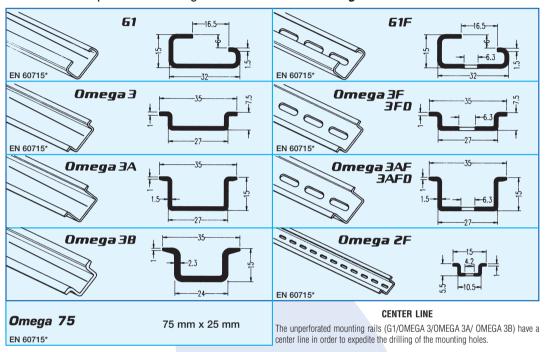


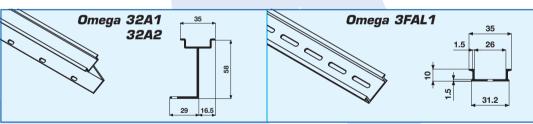


DIN RAILS

RoHS compliant

The most comprehensive range of *Din metal mounting rails*



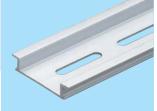


Catalog	Lengths
Number	Per Pack
G1	12
G1F	12
OMEGA 2F	20
OMEGA 2F1	40*
OMEGA 3	20
OMEGA 3F	20
OMEGA 3F1	40*
OMEGA 3FD	20
OMEGA 3A	10
OMEGA 3AF	10
OMEGA 3AF1	20*
OMEGA 3AFD	10
OMEGA 3B	10
OMEGA 3B1	10*
OMEGA 75	2

Catalog Number	Lengths Per Pack
ALUMINUM	
OMEGA 32A1 OMEGA 32A2 OMEGA 3FAL1	6* 6 40*
GROMMET	
IG-11	10
COPPER	
OMEGA 3ACU	1
STAINLESS STEEL	
OMEGA 3SS OMEGA 3SS1	2 6*

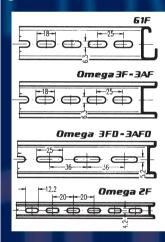
^{*}One meter long



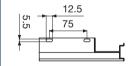


Treated with galvanic zinc plating and passivation (gal Zn 8c according to Din 50960)
Minimum thickness 6 microns
Standard length: 2 meters (6'6¾')

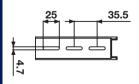
Bottom perforation



Omega 32A1 32A2



Omega 3FAL1



In compliance with EN 60715 standard

DINCLIC

MOUNTING CLIPS

Material

Zinc plated steel



With its help, one can snap onto all the mounting rails (except OMEGA 2F) those small switching devices which are not made for mounting on DIN rails.

Catalog	Pieces per
Number	Pack
DINCLIC DM4	40
DINCLIC FM4	40
DINCLIC FM5	40
DINCLIC FM8	20

Dinclic DM4 For mounting on rail G1, G1F Dinclic FM4 - FM5 For mounting on OMEGA 3 - OMEGA 3A - OMEGA 3F OMEGA 3AF - OMEGA 3B - OMEGA 3FD

FM4 and DM4 - 4 mm FM5 - 5 mm (US 10-32 can be used)





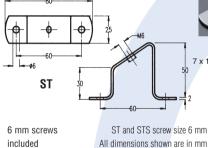
DINCLIC FM8
IN ACETAL HOMOPOLYMER PLASTIC
(USE #8 SELF-TAPPING SCREW)
OTHER SCREW SIZES
AVAILABLE CONTACT IBOCO)

ST-STS

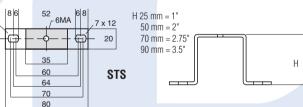
DIN RAIL SUPPORT BRACKETS

Cold-rolled steel treated with galvanic zinc plating and passivation

Catalog	Pieces per
Number	Pack
ST	10
STS 25	10
STS 50	10
STS 70	10
STS 90	10







DINFIX

MOUNTING CLIPS

Material

Acetal resin (delrin) and galvanized steel

Catalog	Pieces per
Number	Pack
DINFIX 64	50
DINFIX 53	50

Dinfix permits the smooth mounting of metal rails on the mounting rail G1, thus allowing the construction of supporting frames for switchgear and wiring duct. DINFIX furthermore offers the possibility of installing onto the parallel rail G1, switchgear of a certain size and weight (e.g. transformers or contactors) that are not predisposed for snap-on assembly on Omega 3/3A/3B.

Service Temperature Limit (4°F to 212°F)





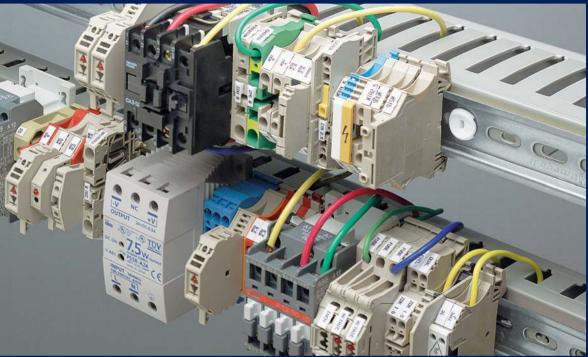
Dinfix 53 (BLACK) Ø M5 Ø M3 Dinfix 64 (WHITE) Ø M6 Ø M4

Once they are mounted, the Dinfix form a strong mounting plane at the level of the upper flange of the rail G1.



Panel Management

With IBOCO 's Space Saver Panel Management System



Save Space

Use up to 30% less panel space

Save Labor

Installations are clean and simple with ZP-1 mounting inserts

Save Money

Use smaller enclosures for your next project

In a dual entry or swing out panel application, this new and innovative panel management system provides a faster, effective and efficient installation.

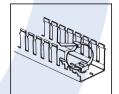


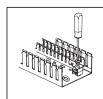
ZP1-ZP2

Catalog Number	Pieces per Carton
ZP 1	100
ZP 2	50

With a simple quarter turn ZP2 can be mounted inside duct. By stacking, mounting levels at different heights are achieved. For tightening a wire bundle inside duct, pass a cable tie through ZP2.

With a simple quarter turn, ZP1 is used to mount components and SEP-E separators inside duct. Also ZP1 can be used to mount smaller sizes of duct inside larger sizes, thus achieving separation of circuits with different voltages and/or functions.





MOUNTING INSERTS CABLE ATTACHMENTS

Material

Polyamide 6

Color WHITE

DINBLOK

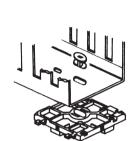
MOUNTING BLOCKS

Material

Acetal Resin

Color

GREY RAL 7030 BLACK

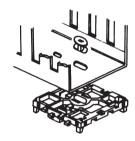


DinbloK 1

for mounting rails G1 type Color: GREY RAL 7030

DinbloK 3

for mounting rails Omega 3 type Color: BLACK



Dinblok 3

Dinblok 1

Catalog	Pieces
Number	per pack.
DINBLOK 1	25
DINBLOK 3	25

All DINBLOKS come complete with ZP1

MSN

DUCTS SUPPORT ARMS

Material

Steel

Color Chrome

Catalog	Pieces per
Number	Pack
MSM	10

This provides added support and strength to your duct system and allows for mounting up to 4" wide duct to the side of our 35 mm Din rail.



WT-1 Wiring Duct Cutter



Features and Benefits

- Heavy-duty stainless steel blade
 Easy-grip handle
 Smooth, burr-free cuts on duct and cover
 Quick, easy cutting
 For use with all IBOCO wiring duct products, including DINOSAUR DUCT

Catalog Number	Pieces per Pack
WT-1	1
WT-2	1

T-1032 Side Wall Cutting Tool



Features and Benefits

- Cuts lower scoreline cleanly
 Reduces installation time
 Unique design provides burr-free edges
 Heavy-duty construction
 Replacement blades (B-1035) are available

Catalog	Pieces per
Number	Pack
T-1032	1

Cable Tie Installation Tools

ITT-1



Catalog	Pieces per
Number	Pack
ITT-1	1
ITT-2A	1

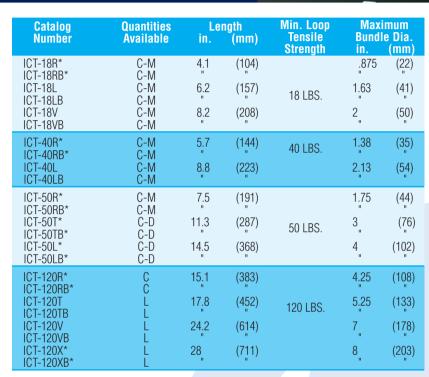
ITT-2A



ICT

CABLE TIES

Material 6/6 Nylon Color NATURAL - BLACK



Suffix B indicates BLACK For other colors contact sales office *MIL-SPEC Ties

EXTRA HEAVY DUTY

Catalog Number	Quantities Available	Le in.	ngth (mm)	Min. Loop Tensile Strength		rimum le Dia. (mm)
ICT-175V* ICT-175VB*	L	25.3	(642)	<u> </u>	7.2	(183)
ICT-175VB ICT-175R* ICT-175RB*	Ĺ	33.1	(840)		9.75	(248)
ICT-175TB* ICT-175TB*	L L	47.8	(1214)	175 LBS.	15	(381)
ICT-250R* ICT-250RB*	C C	22.8	(579)	250 LBS.	6	(152)

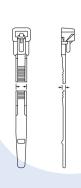
Suffix B indicates BLACK

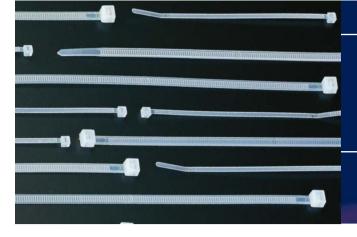
*MIL-SPEC Ties

RELEASABLE

Catalog Number	Quantities Available	Le in.	ngth (mm)	Min. Loop Tensile Strength		imum le Dia. (mm)
ICT-50RLR ICT-50RLRB	C C	5.9	(149)	Ĭ	1,25	(32)
ICT-50RLS ICT-50RLSB	C	7.9	(200)	50 LBS.	2	(51)
ICT-50RLL ICT-50RLLB	C	11.9	(302)		3 _"	(76)

Suffix B indicates BLACK





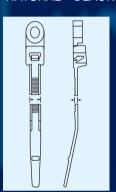
CABLE TIES

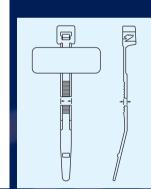
Material

6/6 Nylon

Color

NATURAL - BLACK





MOUNTING HOLES

Catalog Number	Quantities Available	Ler in.	ngth (mm)	Min. Loop Tensile Strength		imum le Dia. (mm)	Screw Hole
ICT-30MHR ICT-30MHRB	C-M C-M	6	(152)	30 LBS.	1.25	(32)	NO.8
ICT-50MHS ICT-50MHSB ICT-50MHT ICT-50MHTB ICT-50MHL ICT-50MHL	C-M C-M C-D C-D C-D C-D	8 11.8 14.5	(205) (299) (368)	50 LBS.	1.75 3 4	(44) (76) (102)	NO.10
ICT-120MHL ICT-120MHLB	C C	15.7	(398)	120 LBS.	4 "	(102)	NO.10

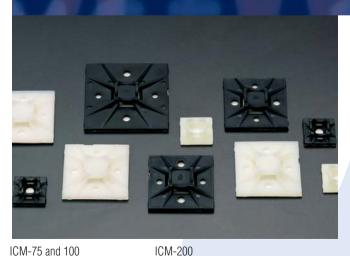
Suffix B indicates BLACK

IDENTIFICATION & FLAG TAGS

Catalog Number	Quantities Available	Len in.	gth (mm)	Min. Loop Tensile Strength	Maxi Bundlo in.		Pad Size
ICT-18IDR ICT-18FLR	C C	4	(101)	18 LBS.	63	(16)	5/16 x 1 5/16 x 13/16
ICT-50IDS ICT-50IDL	C	7.8 14	(200) (358)	50 LBS.	1.75(44) 4(102)		1/2 x 1/8 1/2 x 2 1/4

Add following suffix to number to indicate quantity M=1,000 pc package (ie..ICT-18R-M) D= 500 pc package (ie..ICT-50R-D) C= 100 pc package (ie..ICT-18R-C) L= 50 pc package (ie..ICT-120R-L)

For additional colors/sizes contact factory



ICM-75 and 100



Θ

Catalog Number	Pieces per Pack *
ICM-75	100
ICM-100	100
ICM-200	100

Add suffix M to number when ordering 1000 pc package (ie.ICT-18R-M)

Suffix B indicates BLACK



CABLE MOUNTS

Material 6/6 Nylon

Color

NATURAL - BLACK

Adhesive Backed Duct

Adhesive tape can be applied to all sizes of our T1, T1E and TS Wiring Duct Series products.

Adhesive backing can be used for the following applications:

1) TEMPORARY MOUNTING (See Table Below):

Gives installer ample time to secure duct (rivets or screws) with precision and accuracy.

2) PERMANENT MOUNTING:

Significantly reduces labor costs and time by eliminating the need to drill or tap holes during installation. IBOCO recommends the entire width of the duct be covered with an Acrylic based adhesive tape. Contact factory for pricing;

Note: IBOCO recommends that, when using acrylic tape, approximately 12 hours of curing time is allowed.

Factory Applied Tape (Temporary Mounting) Rubber Based Only

Duct Size W x H	Rows of Tape	Tape Size (in)	Tape Thickness
.5 x .5 Thru 1.5 x 2.25	1	.50	.0313
1.5 x 3 Thru 3 x 2	2	.50	.0313
3 x 3 Thru 3 x 5	2	.75	.0313
4 x 1.5 Thru 4 x 5	2	.75	.0313
6 x 4	3	.75	.0313

Tape Specifications:

- * Double-sided rubber based polyolefin foam tape
- * Application Temperature Range 65° F to 100° F
- * General Service Temperature -20° F to 175° F

Please add an "A" to the part number when ordering (i.e. T1-2230GA).

Adhesive is applied as ordered. For pricing please contact the factory.

Rolls of Adhesive to Purchase Separately

Part Number	Tape Size (in)	Roll Length (ft)
Acrylic MT-32A88 MT-32A150 MT-32A212	.875 1.5 2.125	216 216 216
Rubber MT-32A50 MT-32A75	.50 .75	216 216

Technical Characteristics of Materials

IBOCO wiring products respond to all installation needs, coping with different uses and environment applications. They are manufactured with high quality materials that undergo severe quality controls and performance tests under extreme operating and duration conditions with a constant control of quality standards.

- WIRING DUCTS T1, T1-E, T1-K, T1-B, TS, SEP-E, CL, COV, TR1 and TR1-E are manufactured in rigid SELF-EXTINGUISHING PVC.
- Those components for which high bending resilience is required are in polyamide 6 and polypropylene.
- SPIRALITE is manufactured in natural polyethylene and self-extinguishing polyethylene.

MATERIALS			PVC DUCT	PVC MOULDED COMPONENTS	POLYAMIDE 6	POLYETHYLENE	FLAME RETARDANT
TECHNICAL CHARACTERISTICS				OUMI CIVELLIO			POLYETHYLENE
	UNIT OF MEASURE	STANDARD	Value	Value	Value	Value	Value
CHEMICAL-PHYSICAL PROPERTIES	MEASURE						
Specific gravity	g/cm³	ASTM D792	1.55	1.32	1.14	0.92	0.97
H ₂ O 73,4° F absorption	%	ISO 62	<0,1	<0,1	2,5	<0,1	<0,1
Formaldehyde	ppm	-	absent	absent	absent	absent	absent
Cadmium	ppm	-	absent	absent	absent	absent	absent
MECHANICAL PROPERTIES							
Tensile stress at break	MPa	ASTM D638	39	30	45	17	15
Traction strength	MPa	ASTM D638	44	27	55	9,5	9
Elongation at break	%	ASTM D638	130	97	250	400	600
Modulus of elasticity at traction	MPa	ASTM D638	4400	_	950	_	240
Modulus of elasticity at flexion	MPa	ASTM D790	3200	_	1100	210	130
THERMAL PROPERTIES							
Temperature VICAT	°C	ASTM D1525	84	70	198	89	_
HDT	°C	ASTM D648	72	60	185	_	_
Coefficient of expansion	K^{-1}	ASTM D696	6 10 ⁻⁵	8 10-5	8-10 10 ⁻⁵	22 10 ⁻⁵	10 ⁻⁵
Specific heat	kJ/kgK	ASTM C351	0,94	1,24	1,7	-	_
Thermal conductivity	W/mK	ASTM C177	0,14	0,14	0,29	0,32	0,32
ELECTRICAL PROPERTIES							
Dielectric constant	ı	ASTM D150	3,2 - 4,0	3,2	5,0	2,4	2,3
Dielectric strength	kV/mm	IEC 243	70	60	35	90	90
Surface resistance	Ohm	IEC 93	10 ¹³	10 ¹³	5 10 ¹¹	10 ¹³	10 ¹³
SELF-EXTINGUISHING							
Self-extinguishing 1,6 millimeters	-	UL 94	V0	V0	V2	HB	V2
Self-extinguishing 3,2 millimeters	-	UL 94	V0	V0	V2	НВ	V2
Glow wire test (2 mm)	°C	IEC 695-2-1	960	960	650	650	850
Oxygen number	%	ASTM D2863	43	34	25	_	25

Rigid PVC Resistance to Chemical Agents

		Temp.	
Chemical	Concentration	°C	Resistance
Acetic acid, hydrous	25%	40	+
Acetic acid	100%	20	0
Acetone	traces	20	-
Acetone	100%	20	-
Acqua regia		20	0
Aluminium chloride, hydrous	thinned	40	+
Aluminium sulphate, hydr.	thinned	40	+
Ammonia, concentrate	saturated	40	+
Ammonia, dry gas	100%	60	+
Ammonia, liquid	100%	20	0
Aniline, pure	100%	20	-
Antifreeze	commercial	20	+
Arsenic acid. hydr.	thinned	40	+
Barium hydroxide, hydr.		60	+
Barium salts, hydr.		60	+
Beer	commercial	20	+
Bee's wax	commercial	20	+
Benzene	100%	20	+
Benzoic acid		20	+
Bleaching lye	usual conc.	40	+
Borax, hydrous	thinned	40	+
Boric acid, hydr.	thinned	40	+
Brandy	commercial	20	+
Bromine, liquid	100%	20	-
Butane, gaseous		20	+
Butadiene	50%	60	+
Butanol	10%	20	+
Butyric acid, hydr.	20%	20	+
Calcium chloride		60	0
Camphor oil	100%	20	+
Carbon tetrachloride	100%	20	0
Carbon dioxide, dry	100%	60	+
Chlorine, gaseous, dry	100%	20	+
Chlorine, gaseous, moist	0.5%	20	+
Chlorine, liquid		20	_
Chlorine water	saturated	20	0
Chromic acid, hydr.	50%	40	+
Citric acid, hydr.	10%	40	+
Copper sulphate, hydr.	thinned	40	+
Diesel oil	100%	20	+
Ethyl-alcohol	96%	20	+
Formaldehyde, hydr.	thinned	40	+
Formic acid	100%	20	+
Freon 12	100%	20	+
Gasoline	100%	60	+
Gelatin, hydr.		40	+
Glycerine, hydr.		60	+
Heating oil		20	0

Chemical	Concentration	Temp.	Resistance
Hexane	Concentration	20	
Hydrochloric acid	30%	40	+
•	100%	60	
Hydrogen	saturated	50	+
Lead acetate, hydr.			+
Lead tetra-ethyl	100%	20	+
Linseed oil	100%	60	0
Lubricating oils Methanol	100%	20	+
Triotila.io	100% normal	40	+
Milk	110111101	20	+
Mineral oil	100%	20	+
Molasses		20	+
Naphtalene	000/	20	_
Nitrous acid, liquid	30%	50	+
Oils and fats	commercial	60	+
Oil of turpentine	100%	60	0
Ozone	100%	20	+
Paraffin wax		60	+
Petroleum		20	0
Photographic developer	commercial	40	+
Photographic emulsions	commercial	40	+
Potash lye, hydrous	40%	40	+
Patassium permanganate	6%	20	+
Propane, liquid	100%	20	+
Prussic acid		60	+
Salicylic acid		60	+
Sea water		60	0
Sebacic acid	100%	60	+
Silicone oil	100%	20	+
Soda, hydrous	thinned	40	+
Sodium chloride	thinned	40	+
Spirits, all types	commercial	20	+
Succinic acid, hydrous		60	+
Sulphur		60	0
Sulphuric acid, hydrous	40%	40	+
Tannic acid	10%	60	0
Tetrahydrofuran	100%	20	-
Toluene	100%	20	-
Tincture of Iodine	commericial	20	-
Urea, hydrous	10%	40	+
Urine		40	+
Vaseline oil	100%	20	-
Vinegar	commercial	40	+
Water	100%	40	+
Water steam		40	0
Wines, red and white	commercial	20	+
Zinc salts	saturated	60	0
Zinc sulphate, hydrous	thinned	40	+

⁺ Resistant, O Resistant in certain conditions, - Unsuitable

IBOCO...Performance, Reliability and Value

nnovation. IBOCO's wiring duct system and wire management products are uniquely designed to simplify the installation process and provide the user many time/money saving solutions.

Brand Name Assurance. As a subsidiary of the European leader in wire management.

The BOCCHIOTTI S.p.A. Group, IBOCO's name represents total product integrity from manufacturing, quality assurance and worldwide certifications: UL, CSA, CE, UNI EN ISO 9001:2000 and others.

Opportunity. IBOCO offers numerous marketing and sales partnership strategies to our valued customers. Our customers are assured that

IBOCO will continue to support its network of stocking distributors.

Commitment. Since 1986 IBOCO has built its solid reputation in the industry on innovative wiring duct products and total service. We realize a quick response is vital to the success of your business. IBOCO's large physical inventory and 24



hour shipment policy on all catalog items, confirms our commitment to you.

Originality. IBOCO will continue to provide product innovation and design that offer our distributors and end-users strategic marketing/sales programs, one of the industry's largest available inventories and unprecedented service levels. Specifying IBOCO assures the end-user time saving advantages, international certification and quality assurance guarantees.

Contact our expert factory staff or local sales representatives to answer all of your wiring duct system application questions.

