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bruno

CONDUCTORS



COLLEGAMENTI ELETTRICI FLESSIBILI IN RAME
FLEXIBLE COPPER CONDUCTORS

PROFILO AZIENDA

Dal **1959** abbiamo accumulato oltre 50 anni di ininterrotta esperienza assistendo i clienti dalla progettazione fino al prodotto finito, con l'utilizzo di sistemi CAD-CAM e macchinari a Controllo Numerico.

Tutti i prodotti sono interamente sviluppati all'interno dell'azienda dai nostri tecnici specializzati, con sviluppo di tecnologie, processi ed attrezzature.

Sono disponibili esecuzioni standard e speciali.

Il nostro impegno è rivolto ad una stretta collaborazione con i clienti offrendo consegne rapide e prodotti personalizzati.



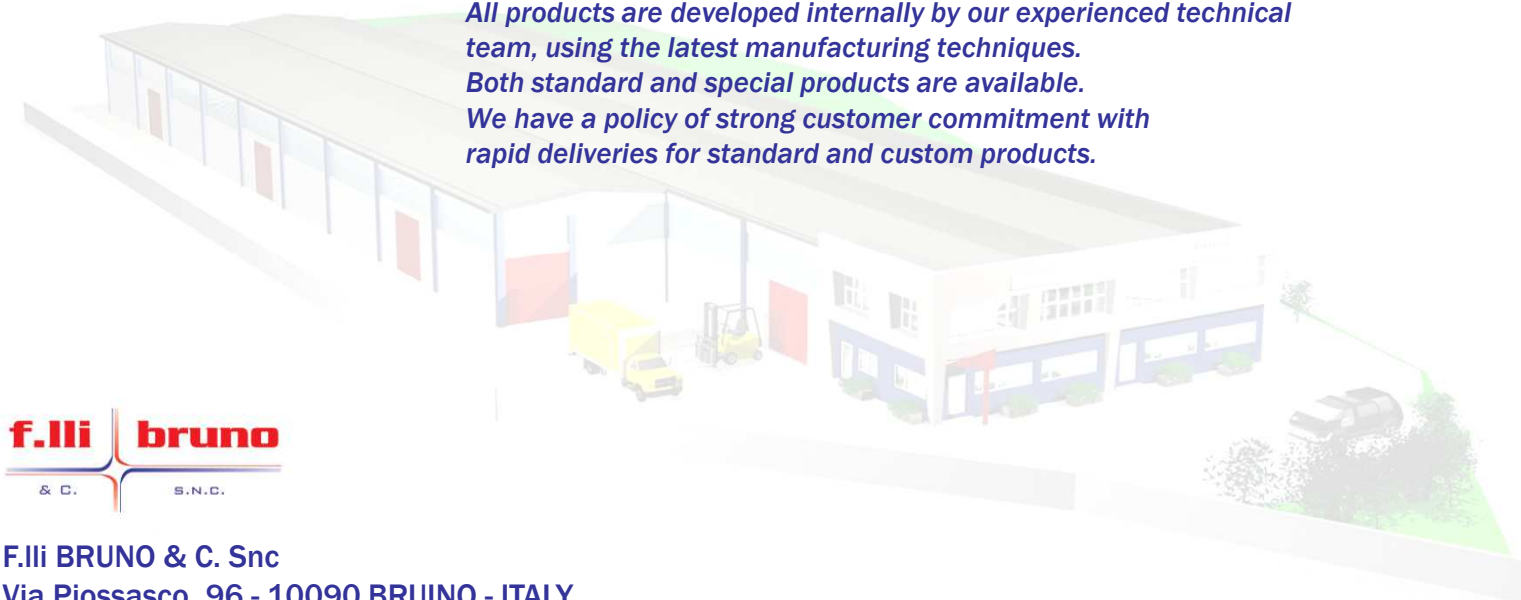
THE COMPANY

*From **1959** we amassed more than 50 years of uninterrupted experience assisting clients from concept to finished product and using CAD-CAM design and manufacturing systems linked to CNC equipment.*

All products are developed internally by our experienced technical team, using the latest manufacturing techniques.

Both standard and special products are available.

We have a policy of strong customer commitment with rapid deliveries for standard and custom products.



F.lli BRUNO & C. Snc

Via Piosasco, 96 - 10090 BRUINO - ITALY

Tel. (+39) 011 9048348

Fax (+39) 011 9085111

Web site: www.brunoconductors.it

E-mail: bruno@conductors.it

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Please take notice that it is not allowed to use our photos, drawings or catalogue pages without having our explicit authorization.



55 ANNI YEARS

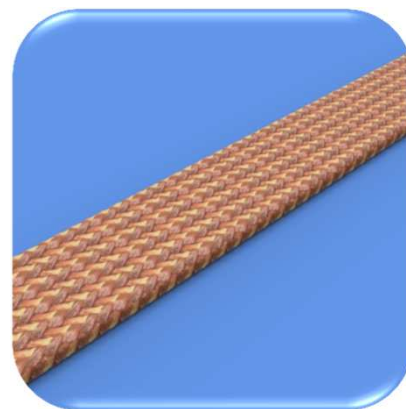
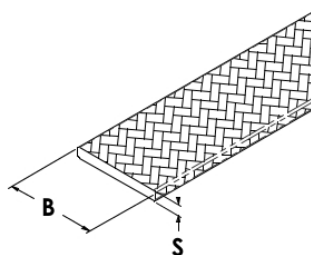
1959 - 2014

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TRECCE IN MATASSA

BRAIDS IN ROLLS

- Filo elem. Cu-ETP UNI EN 13602 - Ø 0,20 mm
(Ø 0,05 – 0,07 – 0,10 – 0,15 mm su richiesta)
*Single wire Cu-ETP UNI EN 13602 - Ø 0,20 mm
(Ø 0,05 – 0,07 – 0,10 – 0,15 mm upon request)*
- Materiali e formazioni treccia speciali su richiesta
Special braid materials and structure upon request
- Allestimenti e metrature speciali su richiesta
Special dimensions and lengths upon request



TRECCIA TUBOLARE APPIATTITA

FLAT TUBULAR BRAID

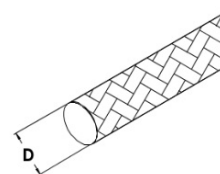
Rame Rosso <i>Bare Copper</i>	Rame Stagnato <i>Tin-Plated Copper</i>	Sezione <i>Cross-Sect.</i> [mm²]	Filo Elem. <i>Single wire</i> Ø [mm]	B [mm]	S [mm]	L [m]	Portata <i>Current load</i> ΔT 30 °C
TR 6/020-10/25	TS 6/020-10/25	6	0,20	10	1,5	25	55 A
TR 6/020-10/100	TS 6/020-10/100	6	0,20	10	1,5	100	55 A
TR 10/020-10/25	TS 10/020-10/25	10	0,20	10	2	25	80 A
TR 10/020-10/100	TS 10/020-10/100	10	0,20	10	2	100	80 A
TR 10/020-15/25	TS 10/020-15/25	10	0,20	15	2	25	80 A
TR 10/020-15/100	TS 10/020-15/100	10	0,20	15	2	100	80 A
TR 16/020-15/25	TS 16/020-15/25	16	0,20	15	2,5	25	120 A
TR 16/020-15/100	TS 16/020-15/100	16	0,20	15	2,5	100	120 A
TR 25/020-20/25	TS 25/020-20/25	25	0,20	20	3,2	25	150 A
TR 25/020-20/100	TS 25/020-20/100	25	0,20	20	3,2	100	150 A
TR 35/020-20/25	TS 35/020-20/25	35	0,20	20	3,4	25	195 A
TR 35/020-20/100	TS 35/020-20/100	35	0,20	20	3,4	100	195 A
TR 50/020-28/25	TS 50/020-28/25	50	0,20	28	3,6	25	250 A
TR 50/020-28/50	TS 50/020-28/50	50	0,20	28	3,6	50	250 A
TR 75/020-28/25	TS 75/020-28/25	75	0,20	28	5	25	300 A
TR 75/020-28/50	TS 75/020-28/50	75	0,20	28	5	50	300 A
TR 100/020-32/10	TS 100/020-32/10	100	0,20	32	6	10	370 A
TR 100/020-32/25	TS 100/020-32/25	100	0,20	32	6	25	370 A
TR 120/020-35/10	TS 120/020-35/10	120	0,20	35	7	10	410 A
TR 120/020-35/25	TS 120/020-35/25	120	0,20	35	7	25	410 A
TR 150/020-38/10	TS 150/020-38/10	150	0,20	38	8	10	470 A
TR 150/020-38/25	TS 150/020-38/25	150	0,20	38	8	25	470 A
TR 200/020-40/10	TS 200/020-40/10	200	0,20	40	10	10	560 A
TR 200/020-40/25	TS 200/020-40/25	200	0,20	40	10	25	560 A
TR 250/020-40/10	TS 250/020-40/10	250	0,20	40	12,5	10	640 A
TR 250/020-40/25	TS 250/020-40/25	250	0,20	40	12,5	25	640 A
TR 300/020-50/10	TS 300/020-50/10	300	0,20	50	12	10	740 A
TR 300/020-50/25	TS 300/020-50/25	300	0,20	50	12	25	740 A

Portate dei conduttori indicative riferite a temperatura ambiente di 35 °C (vedi pag. 28)

Conductors current loads are approximated and related to the ambient temperature of 35 °C (please see page 28)

TRECCIA ROTONDA

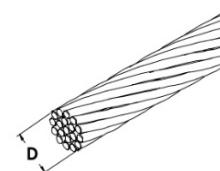
ROUND BRAID



Rame Rosso Bare Copper	Rame Stagnato Tin-Plated Copper	Sezione Cross-Sect. [mm ²]	Filo Elem. Single wire Ø [mm]	D [mm]	L [m]	Portata Current load ΔT 30 °C
RR 6/020-4/25	RS 6/020-4/25	6	0,20	4	25	50 A
RR 6/020-4/100	RS 6/020-4/100	6	0,20	4	100	50 A
RR 10/020-5/25	RS 10/020-5/25	10	0,20	5	25	75 A
RR 10/020-5/100	RS 10/020-5/100	10	0,20	5	100	75 A
RR 16/020-6/25	RS 16/020-6/25	16	0,20	6	25	110 A
RR 16/020-6/100	RS 16/020-6/100	16	0,20	6	100	110 A
RR 25/020-8/25	RS 25/020-8/25	25	0,20	8	25	140 A
RR 25/020-8/100	RS 25/020-8/100	25	0,20	8	100	140 A
RR 35/020-9/25	RS 35/020-9/25	35	0,20	9	25	185 A
RR 35/020-9/100	RS 35/020-9/100	35	0,20	9	100	185 A
RR 50/020-11/25	RS 50/020-11/25	50	0,20	11	25	240 A
RR 50/020-11/50	RS 50/020-11/50	50	0,20	11	50	240 A
RR 75/020-13/25	RS 75/020-13/25	75	0,20	13,5	25	285 A
RR 75/020-13/50	RS 75/020-13/50	75	0,20	13,5	50	285 A
RR 100/020-16/10	RS 100/020-16/10	100	0,20	16	10	350 A
RR 100/020-16/25	RS 100/020-16/25	100	0,20	16	25	350 A
RR 120/020-18/10	RS 120/020-18/10	120	0,20	17,5	10	390 A
RR 120/020-18/25	RS 120/020-18/25	120	0,20	17,5	25	390 A
RR 150/020-20/10	RS 150/020-20/10	150	0,20	20	10	450 A
RR 150/020-20/25	RS 150/020-20/25	150	0,20	20	25	450 A

CORDA

TWISTED CABLE



Rame Rosso Bare Copper	Rame Stagnato Tin-Plated Copper	Sezione Cross-Sect. [mm ²]	Filo Elem. Single wire Ø [mm]	D [mm]	L [m]	Portata Current load ΔT 30 °C
CR 6/020-4/25	CS 6/020-4/25	6	0,20	4	25	50 A
CR 6/020-4/100	CS 6/020-4/100	6	0,20	4	100	50 A
CR 10/020-5/25	CS 10/020-5/25	10	0,20	5	25	75 A
CR 10/020-5/100	CS 10/020-5/100	10	0,20	5	100	75 A
CR 16/020-6/25	CS 16/020-6/25	16	0,20	6	25	110 A
CR 16/020-6/100	CS 16/020-6/100	16	0,20	6	100	110 A
CR 25/020-8/25	CS 25/020-8/25	25	0,20	8	25	140 A
CR 25/020-8/100	CS 25/020-8/100	25	0,20	8	100	140 A
CR 35/020-9/25	CS 35/020-9/25	35	0,20	9	25	185 A
CR 35/020-9/100	CS 35/020-9/100	35	0,20	9	100	185 A
CR 50/020-11/25	CS 50/020-11/25	50	0,20	11	25	240 A
CR 50/020-11/50	CS 50/020-11/50	50	0,20	11	50	240 A
CR 75/020-13/25	CS 75/020-13/25	75	0,20	13,5	25	285 A
CR 75/020-13/50	CS 75/020-13/50	75	0,20	13,5	50	285 A
CR 100/020-16/10	CS 100/020-16/10	100	0,20	16	10	350 A
CR 100/020-16/25	CS 100/020-16/25	100	0,20	16	25	350 A
CR 120/020-18/10	CS 120/020-18/10	120	0,20	17,5	10	390 A
CR 120/020-18/25	CS 120/020-18/25	120	0,20	17,5	25	390 A
CR 150/020-20/10	CS 150/020-20/10	150	0,20	20	10	450 A
CR 150/020-20/25	CS 150/020-20/25	150	0,20	20	25	450 A

Portate dei conduttori indicative riferite a temperatura ambiente di 35 °C (vedi pag. 28)

Conductors current loads are approximated and related to the ambient temperature of 35 °C (please see page 28)

TRECCE DI MASSA

EARTHING BRAIDS



FR



FS



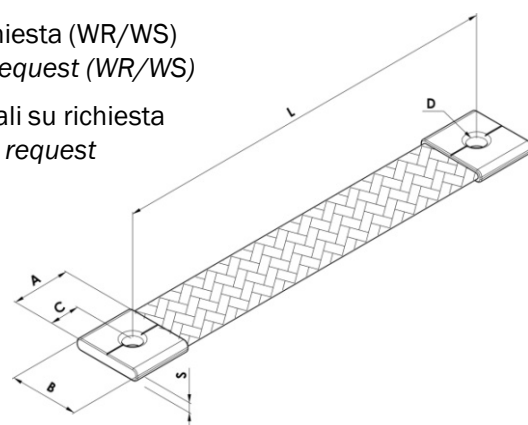
FR/S

- Terminali in lamiera Cu-ETP UNI EN 1652
Cu-ETP UNI EN 1652 strip terminals
- Filo elementare Cu-ETP UNI EN 13602
Single wire Cu-ETP UNI EN 13602
- Isolamento speciale su richiesta
Special insulation upon request
- Terminali pressosaldati su richiesta (WR/WS)
Presswelded terminals upon request (WR/WS)
- Stagnatura a caldo dei terminali su richiesta
Hot tin dipped terminals upon request
- In Alluminio su richiesta
In Aluminium upon request

SOLUZIONI PERSONALIZZATE

CUSTOM-MADE SOLUTIONS

Per ordinare, completare il codice con le misure "L" e "D"
Please insert "L" and "D" dimensions in your orders



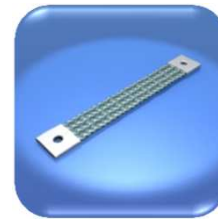
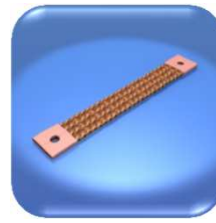
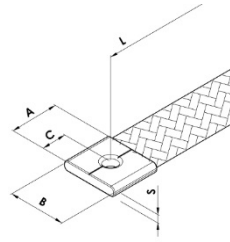
Rame Rosso <i>Bare Copper</i>	Rame Stagnato <i>Tin-Plated Copper</i>	Terminali Stagnati <i>Tin-Plated Terminals</i>	Sezione Cross-Sect. [mm ²]	Filo Elem. Single wire Ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]	S [mm]	Portata Current load ΔT 30 °C
FR 2,5-7/L-D	FS 2,5-7/L-D	FR/S 2,5-7/L-D	2,5	0,20	8	7	4	3,2	1,5	30 A
FR 2,5-7/L-D	FS 2,5-7/L-D	FR/S 2,5-7/L-D	2,5	0,20	11	7	5	4,3	1,5	30 A
FR 4-9/L-D	FS 4-9/L-D	FR/S 4-9/L-D	4	0,20	11	9	5	4,3-5,3	1,7	45 A
FR 6-9/L-D	FS 6-9/L-D	FR/S 6-9/L-D	6	0,20	11	9	5	4,3-5,3	2	55 A
FR 6-11/L-D	FS 6-11/L-D	FR/S 6-11/L-D	6	0,20	13	11	5	5,3-7	1,5	60 A
FR 10-11/L-D	FS 10-11/L-D	FR/S 10-11/L-D	10	0,20	13	11	5	5,3-7	2,2	80 A
FR 10-14/L-D	FS 10-14/L-D	FR/S 10-14/L-D	10	0,20	13	14	6	5,3-7	2,1	90 A
FR 10-17/L-D	FS 10-17/L-D	FR/S 10-17/L-D	10	0,20	23	17	10	7-9-11-13	2	90 A
FR 16-14/L-D	FS 16-14/L-D	FR/S 16-14/L-D	16	0,20	13	14	6	5,3-7	2,6	120 A
FR 16-17/L-D	FS 16-17/L-D	FR/S 16-17/L-D	16	0,20	23	17	10	7-9-11-13	2,5	120 A
FR 25-23/L-D	FS 25-23/L-D	FR/S 25-23/L-D	25	0,20	23	23	10	7-9-11-13	3,2	150 A
FR 35-23/L-D	FS 35-23/L-D	FR/S 35-23/L-D	35	0,20	23	23	10	7-9-11-13	3,4	195 A
FR 50-23/L-D	FS 50-23/L-D	FR/S 50-23/L-D	50	0,20	23	23	10	7-9-11-13	4,5	230 A
FR 50-30/L-D	FS 50-30/L-D	FR/S 50-30/L-D	50	0,20	30	30	15	9-11-13-15	4	250 A
FR 75-30/L-D	FS 75-30/L-D	FR/S 75-30/L-D	75	0,20	30	30	15	9-11-13-15	5	300 A
FR 100-35/L-D	FS 100-35/L-D	FR/S 100-35/L-D	100	0,20	35	35	15	9-11-13-15	6	370 A
FR 150-35/L-D	FS 150-35/L-D	FR/S 150-35/L-D	150	0,20	35	35	15	9-11-13-15	8	460 A
FR 200-35/L-D	FS 200-35/L-D	FR/S 200-35/L-D	200	0,20	35	35	15	9-11-13-15	10	540 A

Sezioni e forature non comprese in tabella vengono allestite su richiesta / *Special dimensions and design upon request*

Le portate dei conduttori sono indicative (vedi pag. 28) / *Conductors current loads are approximated (please see page 28)*

Temperatura Ambiente di riferimento 35 °C / *Referred to Ambient Temperature 35 °C*

TRECCE DI MASSA EARTHING BRAIDS



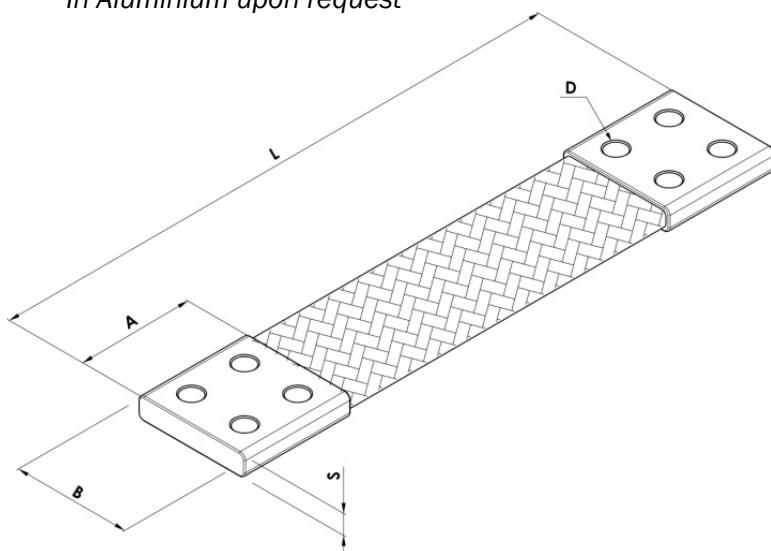
DIMENSIONI STANDARD STANDARD DIMENSIONS

Rame Rosso Bare Copper	Rame Stagnato Tin-Plated Copper	Terminali Stagnati Tin-Plated Terminals	Sezione Cross-Sect. [mm ²]	Filo Elem. Single wire Ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]	S [mm]	L [mm]	Portata Current load ΔT 30 °C
FR 6-11/75-7	FS 6-11/75-7	FR/S 6-11/75-7	6	0,20	13	11	5	7	1,5	75	60 A
FR 6-11/100-7	FS 6-11/100-7	FR/S 6-11/100-7	6	0,20	13	11	5	7	1,5	100	60 A
FR 6-11/150-7	FS 6-11/150-7	FR/S 6-11/150-7	6	0,20	13	11	5	7	1,5	150	60 A
FR 10-17/100-9	FS 10-17/100-9	FR/S 10-17/100-9	10	0,20	23	17	10	9	2	100	90 A
FR 10-17/150-9	FS 10-17/150-9	FR/S 10-17/150-9	10	0,20	23	17	10	9	2	150	90 A
FR 10-17/200-9	FS 10-17/200-9	FR/S 10-17/200-9	10	0,20	23	17	10	9	2	200	90 A
FR 10-17/250-9	FS 10-17/250-9	FR/S 10-17/250-9	10	0,20	23	17	10	9	2	250	90 A
FR 10-17/300-9	FS 10-17/300-9	FR/S 10-17/300-9	10	0,20	23	17	10	9	2	300	90 A
FR 16-17/150-9	FS 16-17/150-9	FR/S 16-17/150-9	16	0,20	23	17	10	9	2,5	150	120 A
FR 16-17/200-9	FS 16-17/200-9	FR/S 16-17/200-9	16	0,20	23	17	10	9	2,5	200	120 A
FR 16-17/250-9	FS 16-17/250-9	FR/S 16-17/250-9	16	0,20	23	17	10	9	2,5	250	120 A
FR 16-17/300-9	FS 16-17/300-9	FR/S 16-17/300-9	16	0,20	23	17	10	9	2,5	300	120 A
FR 16-17/350-9	FS 16-17/350-9	FR/S 16-17/350-9	16	0,20	23	17	10	9	2,5	350	120 A
FR 25-23/150-9	FS 25-23/150-9	FR/S 25-23/150-9	25	0,20	23	23	10	9	3,2	150	150 A
FR 25-23/200-9	FS 25-23/200-9	FR/S 25-23/200-9	25	0,20	23	23	10	9	3,2	200	150 A
FR 25-23/250-9	FS 25-23/250-9	FR/S 25-23/250-9	25	0,20	23	23	10	9	3,2	250	150 A
FR 25-23/300-9	FS 25-23/300-9	FR/S 25-23/300-9	25	0,20	23	23	10	9	3,2	300	150 A
FR 25-23/350-9	FS 25-23/350-9	FR/S 25-23/350-9	25	0,20	23	23	10	9	3,2	350	150 A
FR 35-23/150-9	FS 35-23/150-9	FR/S 35-23/150-9	35	0,20	23	23	10	9	3,4	150	195 A
FR 35-23/200-9	FS 35-23/200-9	FR/S 35-23/200-9	35	0,20	23	23	10	9	3,4	200	195 A
FR 35-23/250-9	FS 35-23/250-9	FR/S 35-23/250-9	35	0,20	23	23	10	9	3,4	250	195 A
FR 35-23/300-9	FS 35-23/300-9	FR/S 35-23/300-9	35	0,20	23	23	10	9	3,4	300	195 A
FR 35-23/350-9	FS 35-23/350-9	FR/S 35-23/350-9	35	0,20	23	23	10	9	3,4	350	195 A
FR 50-30/150-11	FS 50-30/150-11	FR/S 50-30/150-11	50	0,20	30	30	15	11	4	150	250 A
FR 50-30/200-11	FS 50-30/200-11	FR/S 50-30/200-11	50	0,20	30	30	15	11	4	200	250 A
FR 50-30/250-11	FS 50-30/250-11	FR/S 50-30/250-11	50	0,20	30	30	15	11	4	250	250 A
FR 50-30/300-11	FS 50-30/300-11	FR/S 50-30/300-11	50	0,20	30	30	15	11	4	300	250 A
FR 50-30/350-11	FS 50-30/350-11	FR/S 50-30/350-11	50	0,20	30	30	15	11	4	350	250 A
FR 75-30/150-11	FS 75-30/150-11	FR/S 75-30/150-11	75	0,20	30	30	15	11	5	150	300 A
FR 75-30/200-11	FS 75-30/200-11	FR/S 75-30/200-11	75	0,20	30	30	15	11	5	200	300 A
FR 75-30/250-11	FS 75-30/250-11	FR/S 75-30/250-11	75	0,20	30	30	15	11	5	250	300 A
FR 75-30/300-11	FS 75-30/300-11	FR/S 75-30/300-11	75	0,20	30	30	15	11	5	300	300 A
FR 75-30/350-11	FS 75-30/350-11	FR/S 75-30/350-11	75	0,20	30	30	15	11	5	350	300 A
FR 100-35/150-13	FS 100-35/150-13	FR/S 100-35/150-13	100	0,20	35	35	15	13	6	150	370 A
FR 100-35/200-13	FS 100-35/200-13	FR/S 100-35/200-13	100	0,20	35	35	15	13	6	200	370 A
FR 100-35/250-13	FS 100-35/250-13	FR/S 100-35/250-13	100	0,20	35	35	15	13	6	250	370 A
FR 100-35/300-13	FS 100-35/300-13	FR/S 100-35/300-13	100	0,20	35	35	15	13	6	300	370 A
FR 100-35/350-13	FS 100-35/350-13	FR/S 100-35/350-13	100	0,20	35	35	15	13	6	350	370 A
FR 150-35/150-13	FS 150-35/150-13	FR/S 150-35/150-13	150	0,20	35	35	15	13	8	150	460 A
FR 150-35/200-13	FS 150-35/200-13	FR/S 150-35/200-13	150	0,20	35	35	15	13	8	200	460 A
FR 150-35/250-13	FS 150-35/250-13	FR/S 150-35/250-13	150	0,20	35	35	15	13	8	250	460 A
FR 150-35/300-13	FS 150-35/300-13	FR/S 150-35/300-13	150	0,20	35	35	15	13	8	300	460 A
FR 150-35/350-13	FS 150-35/350-13	FR/S 150-35/350-13	150	0,20	35	35	15	13	8	350	460 A
FR 200-35/150-13	FS 200-35/150-13	FR/S 200-35/150-13	200	0,20	35	35	15	13	10	150	540 A
FR 200-35/200-13	FS 200-35/200-13	FR/S 200-35/200-13	200	0,20	35	35	15	13	10	200	540 A
FR 200-35/250-13	FS 200-35/250-13	FR/S 200-35/250-13	200	0,20	35	35	15	13	10	250	540 A
FR 200-35/300-13	FS 200-35/300-13	FR/S 200-35/300-13	200	0,20	35	35	15	13	10	300	540 A
FR 200-35/350-13	FS 200-35/350-13	FR/S 200-35/350-13	200	0,20	35	35	15	13	10	350	540 A

CONNESSIONI DI POTENZA POWER CONDUCTORS



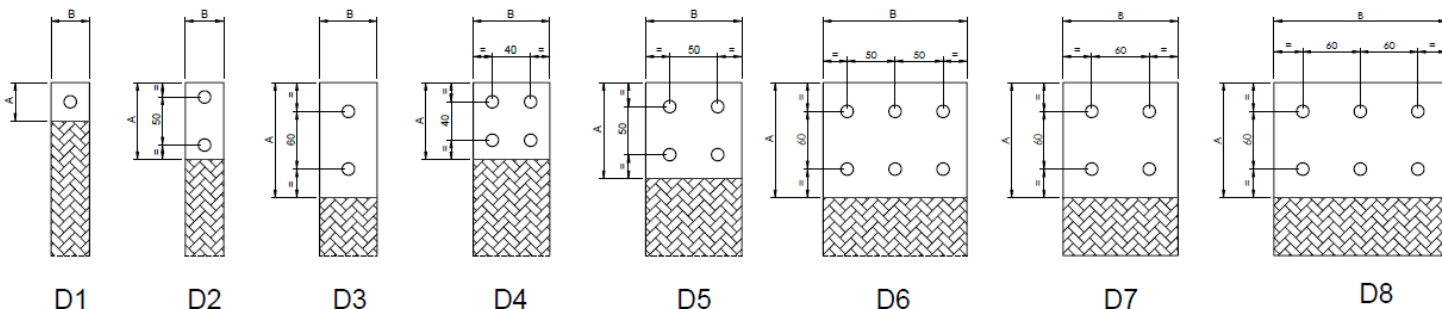
- Terminali in tubo Cu-DHP UNI EN 12499 stagnato
Cu-DHP UNI EN 12499 Tin-plated tubular terminals
- Terminali rossi, argentati o nichelati su richiesta
Bare, silver or nickel plated terminals upon request
- Filo elementare Cu-ETP UNI EN 13602 - Ø 0,20 mm
(Ø 0,05 - 0,07 - 0,10 - 0,15 mm su richiesta)
*Single wire Cu-ETP UNI EN 13602 - Ø 0,20 mm
(Ø 0,05 - 0,07 - 0,10 - 0,15 mm upon request)*
- Materiali e formazioni treccia speciali su richiesta
Special braid materials and structure upon request
- Allestimenti speciali su richiesta
Special dimensions and design upon request
- In Alluminio su richiesta
In Aluminium upon request



- Dimensionamenti standard disponibili per quota "B":
Available standard dimensions for "B":

8 - 10 - 12 - 15 - 17 - 20 - 22 - 25 - 30 - 32 - 35 - 38 - 40 - 43 - 45 - 47 - 48 - 50 - 55 - 56 - 58 - 60 - 63 - 70 - 80 - 90 - 97 - 100 - 120 - 140 - 145 - 150 - 160 - 200 [mm] Dimensioni speciali allestite su richiesta / *Special dimensions realized upon request*

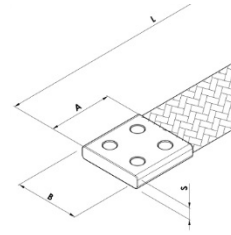
SCHEMI DI FORATURA DRILLING PATTERNS



- Sono inoltre disponibili forature speciali o in accordo con la norma DIN 43673
Custom-made drilling patterns or according to DIN 43673 are also available

CONNESSIONI DI POTENZA

POWER CONDUCTORS



Rame Rosso Bare Copper	Rame Stagnato Tin-Plated Copper	Sezione Cross-Sect. [mm ²]	A [mm]	B [mm]	S [mm]	L [mm]	D [mm]	Foratura Drilling	Portata Current load		
									ΔT 30 °C	ΔT 50 °C	ΔT 70 °C
FRS 10/020-200/10	FSS 10/020-200/10	10	10	10	3,5	200	5	D1	80 A	110 A	140 A
FRS 10/020-200/12	FSS 10/020-200/12	10	12	12	3,2	200	6	D1	80 A	110 A	140 A
FRS 16/020-200/15	FSS 16/020-200/15	16	15	15	3,5	200	7	D1	110 A	160 A	190 A
FRS 16/020-200/17	FSS 16/020-200/17	16	17	17	3,3	200	9	D1	120 A	160 A	200 A
FRS 25/020-200/20	FSS 25/020-200/20	25	20	20	3,7	200	9	D1	150 A	210 A	260 A
FRS 25/020-200/22	FSS 25/020-200/22	25	22	22	3,5	200	9	D1	160 A	220 A	270 A
FRS 25/020-200/25	FSS 25/020-200/25	25	25	25	3,3	200	11	D1	160 A	220 A	280 A
FRS 35/020-200/22	FSS 35/020-200/22	35	22	22	4,1	200	9	D1	190 A	260 A	320 A
FRS 35/020-200/25	FSS 35/020-200/25	35	25	25	3,8	200	11	D1	190 A	270 A	330 A
FRS 50/020-200/25	FSS 50/020-200/25	50	25	25	4,6	200	11	D1	230 A	320 A	400 A
FRS 50/020-200/30	FSS 50/020-200/30	50	30	30	4,2	200	11	D1	250 A	340 A	420 A
FRS 50/020-250/35	FSS 50/020-250/35	50	35	35	3,8	250	13	D1	260 A	350 A	430 A
FRS 75/020-200/30	FSS 75/020-200/30	75	30	30	5,2	200	13	D1	300 A	420 A	510 A
FRS 75/020-250/35	FSS 75/020-250/35	75	35	35	4,8	250	13	D1	320 A	440 A	540 A
FRS 100/020-200/30	FSS 100/020-200/30	100	30	30	6	200	13	D1	350 A	490 A	600 A
FRS 100/020-250/35	FSS 100/020-250/35	100	35	35	5,6	250	13	D1	370 A	510 A	620 A
FRS 100/020-250/40	FSS 100/020-250/40	100	40	40	5,2	250	13	D1	380 A	530 A	650 A
FRS 120/020-200/30	FSS 120/020-200/30	120	30	30	7	200	13	D1	390 A	540 A	660 A
FRS 120/020-250/35	FSS 120/020-250/35	120	35	35	6,5	250	13	D1	410 A	560 A	690 A
FRS 120/020-250/40	FSS 120/020-250/40	120	40	40	6	250	13	D1	420 A	580 A	710 A
FRS 150/020-200/30	FSS 150/020-200/30	150	30	30	8	200	13	D1	440 A	610 A	750 A
FRS 150/020-250/35	FSS 150/020-250/35	150	35	35	7,5	250	13	D1	460 A	630 A	780 A
FRS 150/020-250/40	FSS 150/020-250/40	150	40	40	6,8	250	13	D1	470 A	650 A	800 A
FRS 150/020-250/45	FSS 150/020-250/45	150	45	45	6,2	250	13	D1	490 A	670 A	830 A
FRS 200/020-300/40	FSS 200/020-300/40	200	40	40	8,3	300	13	D1	550 A	760 A	940 A
FRS 200/020-300/45	FSS 200/020-300/45	200	45	45	7,6	300	13	D1	570 A	780 A	960 A
FRS 200/020-300/50	FSS 200/020-300/50	200	50	50	7	300	13	D1	590 A	810 A	990 A
FRS 200/020-350/40	FSS 200/020-350/40	200	100	40	8,3	350	13	D2	550 A	760 A	940 A
FRS 200/020-350/50	FSS 200/020-350/50	200	100	50	7	350	13	D2	590 A	780 A	990 A
FRS 250/020-300/40	FSS 250/020-300/40	250	40	40	10	300	13	D1	630 A	860 A	1060 A
FRS 250/020-300/45	FSS 250/020-300/45	250	45	45	9	300	13	D1	640 A	890 A	1090 A
FRS 250/020-300/50	FSS 250/020-300/50	250	50	50	8,3	300	13	D1	660 A	910 A	1120 A
FRS 250/020-350/40	FSS 250/020-350/40	250	100	40	10	350	13	D2	630 A	860 A	1060 A
FRS 250/020-350/50	FSS 250/020-350/50	250	100	50	8,3	350	13	D2	660 A	910 A	1120 A
FRS 300/020-300/45	FSS 300/020-300/45	300	45	45	10,6	300	13	D1	710 A	980 A	1200 A
FRS 300/020-300/50	FSS 300/020-300/50	300	50	50	9,5	300	13	D1	730 A	1000 A	1230 A
FRS 300/020-300/60	FSS 300/020-300/60	300	60	60	8,5	300	13	D1	770 A	1050 A	1300 A
FRS 300/020-400/45	FSS 300/020-400/45	300	80	45	10,6	400	13	D2	710 A	980 A	1200 A
FRS 300/020-400/50	FSS 300/020-400/50	300	100	50	9,5	400	13	D2	730 A	1000 A	1230 A
FRS 300/020-400/60	FSS 300/020-400/60	300	120	60	8,5	400	13	D2	770 A	1050 A	1300 A
FRS 300/020-400/70	FSS 300/020-400/70	300	120	70	8,3	400	13	D2	800 A	1110 A	1360 A
FRS 400/020-300/50	FSS 400/020-300/50	400	50	50	12	300	13	D1	850 A	1180 A	1450 A
FRS 400/020-400/40	FSS 400/020-400/40	400	80	40	15	400	13	D2	820 A	1130 A	1390 A
FRS 400/020-400/50	FSS 400/020-400/50	400	100	50	12	400	13	D2	850 A	1180 A	1450 A
FRS 400/020-400/60	FSS 400/020-400/60	400	120	60	10,5	400	13	D3	890 A	1230 A	1510 A
FRS 400/020-400/80	FSS 400/020-400/80	400	80	80	9,5	400	13	D4	970 A	1340 A	1650 A
FRS 400/020-400/100	FSS 400/020-400/100	400	100	100	8	400	13	D5	1040 A	1430 A	1760 A
FRS 400/020-400/120	FSS 400/020-400/120	400	120	120	7	400	13	D7	1100 A	1520 A	1870 A
FRS 500/020-400/50	FSS 500/020-400/50	500	100	50	14,5	400	13	D2	970 A	1330 A	1640 A
FRS 500/020-400/60	FSS 500/020-400/60	500	120	60	12,5	400	13	D3	1010 A	1390 A	1710 A
FRS 500/020-400/80	FSS 500/020-400/80	500	80	80	11	400	13	D4	1090 A	1510 A	1850 A
FRS 500/020-400/90	FSS 500/020-400/90	500	120	90	10	400	13	D4	1130 A	1560 A	1920 A
FRS 500/020-400/100	FSS 500/020-400/100	500	100	100	9,2	400	13	D5	1170 A	1610 A	1980 A
FRS 500/020-450/120	FSS 500/020-450/120	500	120	120	8,5	450	13	D7	1240 A	1720 A	2100 A
FRS 500/020-450/140	FSS 500/020-450/140	500	120	140	8,5	450	13	D7	1310 A	1800 A	2210 A
FRS 500/020-450/150	FSS 500/020-450/150	500	120	150	7	450	13	D6	1330 A	1840 A	2260 A
FRS 500/020-450/160	FSS 500/020-450/160	500	120	160	9	450	13	D6	1370 A	1890 A	2320 A
FRS 500/020-500/200	FSS 500/020-500/200	500	120	200	9	500	13	D8	1480 A	2040 A	2510 A

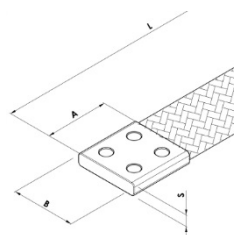
Sezioni, formazioni e forature non comprese in tabella vengono allestite su richiesta / *Special drillings, dimensions and design upon request*

Le portate dei conduttori sono indicative (vedi pag. 28) / *Conductors current loads are approximated (please see page 28)*

Temperatura Ambiente di riferimento 35 °C / *Referred to Ambient Temperature 35 °C*

CONNESSIONI DI POTENZA

POWER CONDUCTORS



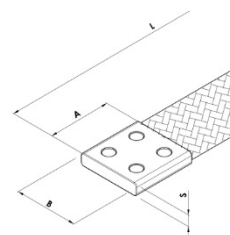
Rame Rosso Bare Copper	Rame Stagnato Tin-Plated Copper	Sezione Cross-Sect. [mm ²]	A [mm]	B [mm]	S [mm]	L [mm]	D [mm]	Foratura Drilling	Portata Current load		
									ΔT 30 °C	ΔT 50 °C	ΔT 70 °C
FRS 600/020-400/60	FSS 600/020-400/60	600	100	60	16	400	13	D2	1120 A	1550 A	1900 A
FRS 600/020-400/70	FSS 600/020-400/70	600	120	70	14	400	13	D3	1160 A	1600 A	1970 A
FRS 600/020-400/80	FSS 600/020-400/80	600	80	80	12,5	400	13	D4	1210 A	1660 A	2040 A
FRS 600/020-400/90	FSS 600/020-400/90	600	120	90	11,5	400	13	D4	1250 A	1720 A	2110 A
FRS 600/020-400/100	FSS 600/020-400/100	600	100	100	10,5	400	13	D5	1290 A	1770 A	2180 A
FRS 600/020-450/120	FSS 600/020-450/120	600	120	120	9,5	450	13	D7	1360 A	1880 A	2300 A
FRS 600/020-450/140	FSS 600/020-450/140	600	120	140	9,3	450	13	D7	1430 A	1980 A	2430 A
FRS 600/020-450/150	FSS 600/020-450/150	600	120	150	8	450	13	D6	1460 A	2020 A	2480 A
FRS 600/020-450/160	FSS 600/020-450/160	600	120	160	8	450	13	D6	1500 A	2060 A	2530 A
FRS 600/020-500/200	FSS 600/020-500/200	600	120	200	10	500	13	D8	1620 A	2240 A	2750 A
FRS 800/020-400/80	FSS 800/020-400/80	800	80	80	15,5	400	13	D4	1410 A	1940 A	2380 A
FRS 800/020-400/100	FSS 800/020-400/100	800	100	100	13	400	13	D5	1500 A	2060 A	2530 A
FRS 800/020-450/120	FSS 800/020-450/120	800	120	120	11,5	450	13	D7	1580 A	2180 A	2680 A
FRS 800/020-450/140	FSS 800/020-450/140	800	120	140	11	450	13	D7	1660 A	2290 A	2810 A
FRS 800/020-450/150	FSS 800/020-450/150	800	120	150	10	450	13	D6	1700 A	2340 A	2880 A
FRS 800/020-450/160	FSS 800/020-450/160	800	120	160	11,2	450	13	D6	1740 A	2400 A	2950 A
FRS 800/020-500/200	FSS 800/020-500/200	800	120	200	11	500	13	D8	1880 A	2590 A	3180 A
FRS 1000/020-450/80	FSS 1000/020-450/80	1000	80	80	19	450	13	D4	1590 A	2200 A	2700 A
FRS 1000/020-450/100	FSS 1000/020-450/100	1000	100	100	15,5	450	13	D5	1690 A	2320 A	2850 A
FRS 1000/020-450/120	FSS 1000/020-450/120	1000	120	120	14,5	450	13	D7	1780 A	2450 A	3020 A
FRS 1000/020-500/140	FSS 1000/020-500/140	1000	120	140	13	500	13	D7	1870 A	2570 A	3160 A
FRS 1000/020-500/150	FSS 1000/020-500/150	1000	120	150	13,3	500	13	D6	1910 A	2630 A	3240 A
FRS 1000/020-500/160	FSS 1000/020-500/160	1000	120	160	12,8	500	13	D6	1950 A	2690 A	3310 A
FRS 1000/020-500/200	FSS 1000/020-500/200	1000	120	200	12,5	500	13	D8	2110 A	2900 A	3570 A
FRS 1200/020-450/100	FSS 1200/020-450/100	1200	100	100	18	450	15	D5	1860 A	2560 A	3150 A
FRS 1200/020-450/120	FSS 1200/020-450/120	1200	120	120	16,5	450	15	D7	1960 A	2700 A	3320 A
FRS 1200/020-500/140	FSS 1200/020-500/140	1200	120	140	14,6	500	15	D7	2050 A	2830 A	3480 A
FRS 1200/020-500/150	FSS 1200/020-500/150	1200	120	150	15	500	15	D6	2100 A	2900 A	3560 A
FRS 1200/020-500/160	FSS 1200/020-500/160	1200	120	160	14,3	500	15	D6	2150 A	2960 A	3630 A
FRS 1200/020-500/200	FSS 1200/020-500/200	1200	120	200	13,5	500	15	D8	2310 A	3180 A	3910 A
FRS 1500/020-450/100	FSS 1500/020-450/100	1500	120	100	22	450	15	D5	2110 A	2900 A	3570 A
FRS 1500/020-450/120	FSS 1500/020-450/120	1500	120	120	20	450	15	D7	2210 A	3050 A	3750 A
FRS 1500/020-500/140	FSS 1500/020-500/140	1500	120	140	16,2	500	15	D7	2300 A	3180 A	3900 A
FRS 1500/020-500/150	FSS 1500/020-500/150	1500	120	150	17,5	500	15	D6	2360 A	3260 A	4000 A
FRS 1500/020-500/160	FSS 1500/020-500/160	1500	120	160	16,6	500	15	D6	2410 A	3320 A	4080 A
FRS 1500/020-500/200	FSS 1500/020-500/200	1500	120	200	15,5	500	15	D8	2590 A	3570 A	4390 A
FRS 1800/020-450/120	FSS 1800/020-450/120	1800	120	120	23	450	15	D7	2440 A	3370 A	4140 A
FRS 1800/020-500/140	FSS 1800/020-500/140	1800	120	140	19	500	15	D7	2540 A	3500 A	4300 A
FRS 1800/020-500/150	FSS 1800/020-500/150	1800	120	150	20	500	15	D6	2600 A	3590 A	4410 A
FRS 1800/020-500/160	FSS 1800/020-500/160	1800	120	160	19	500	15	D6	2650 A	3660 A	4490 A
FRS 1800/020-500/200	FSS 1800/020-500/200	1800	120	200	17,5	500	15	D8	2850 A	3930 A	4830 A
FRS 2000/020-450/120	FSS 2000/020-450/120	2000	120	120	25	450	15	D7	2590 A	3570 A	4390 A
FRS 2000/020-500/140	FSS 2000/020-500/140	2000	120	140	21	500	15	D7	2690 A	3710 A	4560 A
FRS 2000/020-500/150	FSS 2000/020-500/150	2000	120	150	22	500	15	D6	2760 A	3800 A	4670 A
FRS 2000/020-500/160	FSS 2000/020-500/160	2000	120	160	21	500	15	D6	2810 A	3870 A	4760 A
FRS 2000/020-500/200	FSS 2000/020-500/200	2000	120	200	18,5	500	15	D8	3010 A	4150 A	5100 A
FRS 2200/020-450/120	FSS 2200/020-450/120	2200	120	120	27	450	15	D7	2730 A	3760 A	4620 A
FRS 2200/020-500/140	FSS 2200/020-500/140	2200	120	140	24,5	500	15	D7	2840 A	3920 A	4820 A
FRS 2200/020-500/150	FSS 2200/020-500/150	2200	120	150	23,5	500	15	D6	2900 A	4000 A	4910 A
FRS 2200/020-500/160	FSS 2200/020-500/160	2200	120	160	22	500	15	D6	2950 A	4070 A	5000 A
FRS 2200/020-500/200	FSS 2200/020-500/200	2200	120	200	20	500	15	D8	3170 A	4360 A	5360 A
FRS 2400/020-450/120	FSS 2400/020-450/120	2400	120	120	29	450	15	D7	2870 A	3950 A	4850 A
FRS 2400/020-500/140	FSS 2400/020-500/140	2400	120	140	26,5	500	15	D7	2980 A	4110 A	5050 A
FRS 2400/020-500/150	FSS 2400/020-500/150	2400	120	150	25	500	15	D6	3040 A	4190 A	5150 A
FRS 2400/020-500/160	FSS 2400/020-500/160	2400	120	160	24	500	15	D6	3100 A	4260 A	5240 A

Sezioni, formazioni e forature non comprese in tabella vengono allestite su richiesta / *Special drillings, dimensions and design upon request*

Le portate dei conduttori sono indicative (vedi pag. 28) / *Conductors current loads are approximated (please see page 28)*

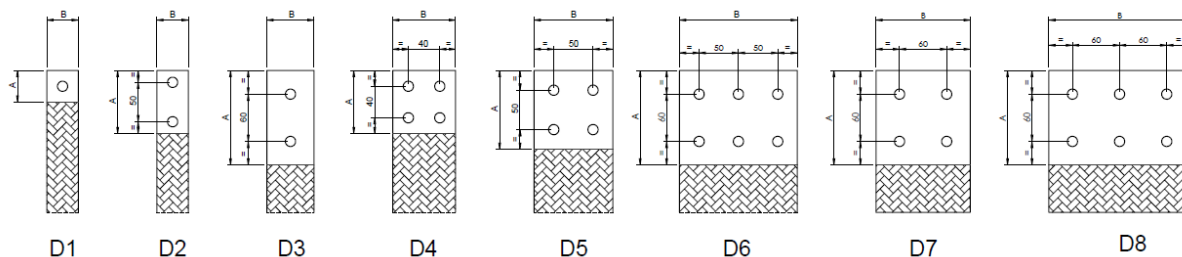
Temperatura Ambiente di riferimento 35 °C / *Referred to Ambient Temperature 35 °C*

CONNESSIONI DI POTENZA POWER CONDUCTORS



Rame Rosso Bare Copper	Rame Stagnato Tin-Plated Copper	Sezione Cross-Sect. [mm ²]	A [mm]	B [mm]	S [mm]	L [mm]	D [mm]	Foratura Drilling	Portata Current load		
									ΔT 30°C	ΔT 50°C	ΔT 70°C
FRS 3000/020-450/120	FSS 3000/020-450/120	3000	120	120	33,5	450	15	D7	3240 A	4460 A	5480 A
FRS 3000/020-500/140	FSS 3000/020-500/140	3000	120	140	32	500	15	D7	3380 A	4650 A	5720 A
FRS 3000/020-500/150	FSS 3000/020-500/150	3000	120	150	30	500	15	D6	3430 A	4730 A	5810 A
FRS 3000/020-500/160	FSS 3000/020-500/160	3000	120	160	28,5	500	15	D6	3490 A	4810 A	5910 A
FRS 3600/020-450/120	FSS 3600/020-450/120	3600	120	120	40	450	15	D7	3600 A	4960 A	6100 A
FRS 3600/020-500/140	FSS 3600/020-500/140	3600	120	140	37	500	15	D7	3740 A	5150 A	6330 A
FRS 3600/020-500/150	FSS 3600/020-500/150	3600	120	150	35	500	15	D6	3800 A	5230 A	6430 A
FRS 3600/020-500/160	FSS 3600/020-500/160	3600	120	160	33	500	15	D6	3860 A	5320 A	6530 A
FRS 4500/020-450/120	FSS 4500/020-450/120	4500	120	120	50	450	15	D7	4120 A	5670 A	6970 A
FRS 4500/020-500/150	FSS 4500/020-500/150	4500	120	150	42,5	500	15	D6	4310 A	5940 A	7300 A
FRS 5000/020-450/120	FSS 5000/020-450/120	5000	120	120	55	450	15	D7	4930 A	6040 A	7430 A

SCHEMI DI FORATURA / DRILLING PATTERNS



DESIGNAZIONI SPECIALI SPECIAL DESIGNATIONS

SEZIONE CONDUTTORE [mm²]
CROSS-SECTION [mm²]

DIAMETRO FILO ELEMENTARE [mm]
SINGLE WIRE DIAMETER [mm]

LUNGHEZZA TOTALE [mm]
TOTAL LENGTH [mm]

LARGHEZZA TERMINALE [mm]
TERMINAL WIDTH [mm]

XYZ U/W - L/B K

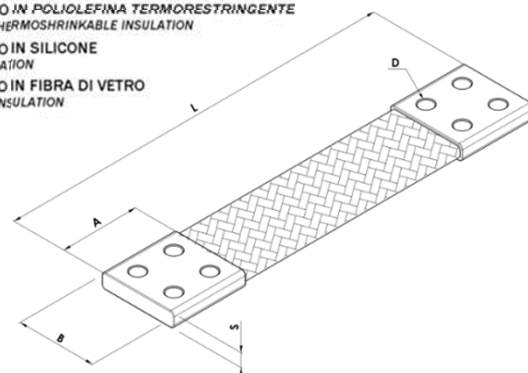
R - TERMINALI IN RAME ROSSO
BARE COPPER TERMINALS
S - TERMINALI IN RAME STAGNATO
TIN-PLATED COPPER TERMINALS
A - TERMINALI IN RAME ARGENTATO
SILVER-PLATED COPPER TERMINALS
N - TERMINALI IN RAME NICHELATO
NICKEL-PLATED COPPER TERMINALS

R - CONDUTTORE IN RAME ROSSO
BARE COPPER CONDUCTOR
S - CONDUTTORE IN RAME STAGNATO
TIN-PLATED COPPER CONDUCTOR

F - CONDUTTORE IN TRECCIA DI RAME PIATTA
FLAT COPPER BRAID CONDUCTOR
C - CONDUTTORE IN CORDA DI RAME
TWISTED COPPER CABLE CONDUCTOR
R - CONDUTTORE IN TRECCIA DI RAME ROTONDA
ROUND COPPER BRAID CONDUCTOR



SN - STAGNATURA A CALDO DEI TERMINALI
HOT TIN DIPPED TERMINALS
PVC - ISOLAMENTO IN PVC
PVC INSULATION
PE - ISOLAMENTO IN POLIOLEFINA TERMORESTRINGENTE
POLYOLEFIN THERMOSHINKABLE INSULATION
SIL - ISOLAMENTO IN SILICONE
SILICON INSULATION
FV - ISOLAMENTO IN FIBRA DI VETRO
GLASS-FIBER INSULATION

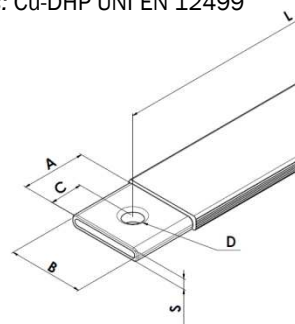


CONNESSIONI DI POTENZA ISOLATE - POWERFLEX

INSULATED POWER CONDUCTORS- POWERFLEX



- Terminali in tubo rame stagnato / *Tin-plated copper tube terminals*: Cu-DHP UNI EN 12499
- Filo elementare / *Single wire*: Cu-ETP UNI EN 13602 - Ø 0,20 mm
- Isolamento in PVC nero / *Black PVC insulation*
- Autoestinguenza / *Self extinguishing*: UL 94 V0
- Tensione di esercizio / *Operating voltage*: 1000 V AC – 1500 V DC
- Temperatura di esercizio / *Operating temperature*: -40/+105 °C
- Rigidità dielettrica / *Dielectric strenght*: 20 kV/mm
- Spessore isolamento / *Insulation thickness*: 1,6 – 2mm
- Portate riferite a rialzo termico ΔT secondo IEC 439 – Ta (Temp. Amb.) 35 °C
Current loads referred to rise temperature ΔT following IEC 439 norm – Ta (Amb. Temp.) 35 °C



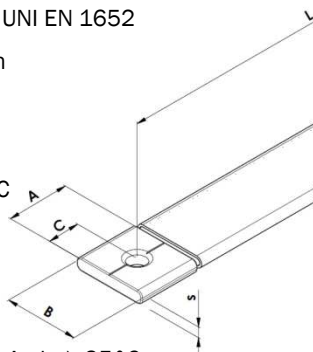
Rame Rosso <i>Bare Copper</i>	Rame Stagnato <i>Tin-Plated Copper</i>	Sezione Cross-Sect. [mm ²]	L [mm]	A [mm]	B [mm]	C [mm]	S [mm]	D [mm]	Portata Current load		
									ΔT 30 °C	ΔT 40 °C	ΔT 50 °C
PRS 16/020 - 230/12	PSS 16/020 - 230/12	16	230	14	12	7	3	6,5	93 A	110 A	127 A
PRS 16/020 - 330/12	PSS 16/020 - 330/12		330								
PRS 16/020 - 430/12	PSS 16/020 - 430/12		430								
PRS 16/020 - 530/12	PSS 16/020 - 530/12		530								
PRS 16/020 - 630/12	PSS 16/020 - 630/12		630								
PRS 16/020 - 730/12	PSS 16/020 - 730/12	25	730	14	12	7	5	6,5	119 A	144 A	161 A
PRS 25/020- 230/12	PSS 25/020-230/12		230								
PRS 25/020-330/12	PSS 25/020-330/12		330								
PRS 25/020-430/12	PSS 25/020-430/12		430								
PRS 25/020-530/12	PSS 25/020-530/12		530								
PRS 25/020-630/12	PSS 25/020-630/12	25	630	22	20	10	3,7	9 - 11	127 A	153 A	178 A
PRS 25/020-730/12	PSS 25/020-730/12		730								
PRS 25/020-230/20	PSS 25/020-230/20		230								
PRS 25/020-330/20	PSS 25/020-330/20		330								
PRS 25/020-430/20	PSS 25/020-430/20		430								
PRS 25/020-530/20	PSS 25/020-530/20	35	530	22	20	10	4,5	9 - 11	153 A	187 A	212 A
PRS 25/020-630/20	PSS 25/020-630/20		630								
PRS 25/020-730/20	PSS 25/020-730/20		730								
PRS 35/020-230/20	PSS 35/020-230/20		230								
PRS 35/020-330/20	PSS 35/020-330/20		330								
PRS 35/020-430/20	PSS 35/020-430/20	50	430	22	20	10	5,5	11	187 A	229 A	263 A
PRS 35/020-530/20	PSS 35/020-530/20		530								
PRS 35/020-630/20	PSS 35/020-630/20		630								
PRS 35/020-730/20	PSS 35/020-730/20		730								
PRS 50/020-230/20	PSS 50/020-250/20		230								
PRS 50/020-330/20	PSS 50/020-330/20	75	330	22	20	10	7	11	238 A	280 A	323 A
PRS 50/020-430/20	PSS 50/020-430/20		430								
PRS 50/020-530/20	PSS 50/020-550/20		530								
PRS 50/020-630/20	PSS 50/020-630/20		630								
PRS 50/020-730/20	PSS 50/020-730/20		730								
PRS 50/020-830/20	PSS 50/020-830/20	120	830	32	32	15	7	11	340 A	408 A	467 A
PRS 75/020-230/20	PSS 75/020-230/20		230								
PRS 75/020-330/20	PSS 75/020-330/20		330								
PRS 75/020-430/20	PSS 75/020-430/20		430								
PRS 75/020-530/20	PSS 75/020-530/20		530								
PRS 75/020-630/20	PSS 75/020-630/20	240	630	32	32	15	12	13	500 A	595 A	688 A
PRS 75/020-730/20	PSS 75/020-730/20		730								
PRS 75/020-830/20	PSS 75/020-830/20		830								
PRS 120/020-230/32	PSS 120/020-230/32		230								
PRS 120/020-330/32	PSS 120/020-330/32		330								
PRS 120/020-430/32	PSS 120/020-430/32	240	430								
PRS 120/020-530/32	PSS 120/020-530/32		530								
PRS 120/020-630/32	PSS 120/020-630/32		630								
PRS 120/020-730/33	PSS 120/020-730/33		730								
PRS 120/020-830/32	PSS 120/020-830/32		830								
PRS 120/020-930/32	PSS 120/020-930/32	240	930	32	32	15	12	13	500 A	595 A	688 A
PRS 240/020-230/32	PSS 240/020-230/32		230								
PRS 240/020-330/32	PSS 240/020-330/32		330								
PRS 240/020-430/32	PSS 240/020-430/32		430								
PRS 240/020-530/32	PSS 240/020-530/32		530								
PRS 240/020-630/32	PSS 240/020-630/32	240	630	32	32	15	12	13	500 A	595 A	688 A
PRS 240/020-730/32	PSS 240/020-730/32		730								
PRS 240/020-830/32	PSS 240/020-830/32		830								
PRS 240/020-930/32	PSS 240/020-930/32		930								

Sezioni, lunghezze e foratura terminali speciali su richiesta / *Special cross sections, lengths and terminal drillings upon request*
 Le portate dei conduttori sono indicative (vedi pag. 28) / *Conductors current loads are approximated (please see page 28)*

CONNESSIONI DI POTENZA ISOLATE - POWERFLEX S

INSULATED POWER CONDUCTORS - POWERFLEX S

- Terminali in lamiera stagnata / *Tin-plated strip terminals*: Cu-ETP UNI EN 1652
- Filo elementare / *Single wire*: Cu-ETP UNI EN 13602 - Ø 0,20 mm
- Isolamento in PVC nero / *Black PVC insulation*
- Autoestinguenza / *Self extinguishing*: UL 94 V0
- Tensione di esercizio / *Operating voltage*: 1000 V AC – 1500 V DC
- Temperatura di esercizio / *Operating temperature*: -40/+105 °C
- Rigidità dielettrica / *Dielectric strenght*: 20 kV/mm
- Spessore isolamento / *Insulation thickness*: 2 mm
- Portate riferite a rialzo termico ΔT secondo IEC 439 – Ta (Temp. Amb.) 35 °C
Current loads referred to rise temperature ΔT following IEC 439 norm – Ta (Amb. Temp.) 35 °C



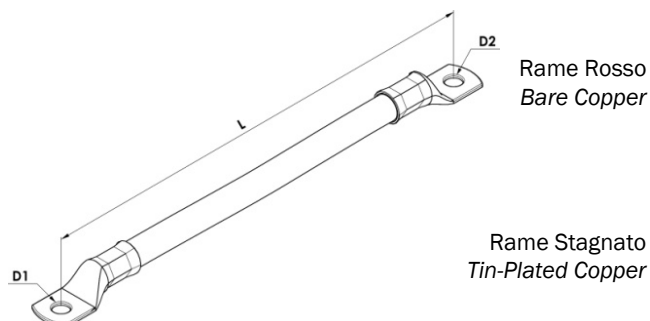
Rame Rosso <i>Bare Copper</i>	Rame Stagnato <i>Tin-Plated Copper</i>	Sezione Cross-Sect. [mm²]	L [mm]	A [mm]	B [mm]	C [mm]	S [mm]	D [mm]	Portata Current load		
									ΔT 30 °C	ΔT 40 °C	ΔT 50 °C
PR/S 16/17-230/9	PS 16/17-230/9	16	230	23	17	10	2,5	7	102 A	119 A	136 A
PR/S 16/17-330/9	PS 16/17-330/9		330								
PR/S 16/17-430/9	PS 16/17-430/9		430								
PR/S 16/17-530/9	PS 16/17-530/9		530								
PR/S 16/17-630/9	PS 16/17-630/9		630								
PR/S 25/23-200/9	PS 25/23-200/9	25	230	23	23	10	3,2	9-11	136 A	161 A	187 A
PR/S 25/23-330/9	PS 25/23-330/9		330								
PR/S 25/23-430/9	PS 25/23-430/9		430								
PR/S 25/23-530/9	PS 25/23-530/9		530								
PR/S 25/23-630/9	PS 25/23-630/9		630								
PR/S 35/23-230/9	PS 35/23-230/9	35	230	23	23	10	3,4	9-11	161 A	195 A	221 A
PR/S 35/23-330/9	PS 35/23-330/9		330								
PR/S 35/23-430/9	PS 35/23-430/9		430								
PR/S 35/23-530/9	PS 35/23-530/9		530								
PR/S 35/23-630/9	PS 35/23-630/9		630								
PR/S 50/23-230/11	PS 50/23-230/11	50	230	23	23	10	4,5	11	195 A	229 A	263 A
PR/S 50/23-330/11	PS 50/23-330/11		330								
PR/S 50/23-430/11	PS 50/23-430/11		430								
PR/S 50/23-530/11	PS 50/23-530/11		530								
PR/S 50/23-630/11	PS 50/23-630/11		630								
PR/S 75/23-230/11	PS 75/23-230/11	75	230	23	23	10	6	11	238 A	289 A	331 A
PR/S 75/23-330/11	PS 75/23-330/11		330								
PR/S 75/23-430/11	PS 75/23-430/11		430								
PR/S 75/23-530/11	PS 75/23-530/11		530								
PR/S 75/23-630/11	PS 75/23-630/11		630								
PR/S 100/30-230-13	PS 100/30-230-13	100	230	30	30	15	7	13	306 A	365 A	416 A
PR/S 100/30-330-13	PS 100/30-330-13		330								
PR/S 100/30-430-13	PS 100/30-430-13		430								
PR/S 100/30-530-13	PS 100/30-530-13		530								
PR/S 100/30-630-13	PS 100/30-630-13		630								
PR/S 150/30-230-13	PS 150/30-230-13	150	230	30	30	15	9,5	13	382 A	459 A	527 A
PR/S 150/30-330-13	PS 150/30-330-13		330								
PR/S 150/30-430-13	PS 150/30-430-13		430								
PR/S 150/30-530-13	PS 150/30-530-13		530								
PR/S 150/30-630-13	PS 150/30-630-13		630								

Sezioni, lunghezze e foratura terminali speciali su richiesta / *Special cross sections, lengths and terminal drillings upon request*
Le portate dei conduttori sono indicative (vedi pag. 28) / *Conductors current loads are approximated (please see page 28)*

CONNESSIONI CON CAPICORDA PRESSATI PRESSED TERMINAL LUG CONDUCTORS



- Filo elementare / *Single wire*: Cu-ETP UNI EN 13602
- Capicorda stagnato / *Tin-plated terminal lugs*: Cu-ETP UNI EN 13600
- Isolamento speciale su richiesta / *Special insulation upon request*



Rame Rosso
Bare Copper



Rame Stagnato
Tin-Plated Copper



COLLEGAMENTI IN TRECCIA DI RAME ROTONDA ROUND COPPER BRAID CONDUCTORS

Rame Rosso Bare Copper	Rame Stagnato Tin-Plated Copper	Sezione Cross-Sect. [mm ²]	Filo Elem. Single wire Ø [mm]	L [mm]	D1 [mm]	D2 [mm]	Portata Current load ΔT 30 °C
LRR 10/020-200/M6	LRS 10/020-200/M6	10	0,20	200	6,4	6,4	75 A
LRR 16/020-200/M8	LRS 16/020-200/M8	16	0,20	200	8,4	8,4	110 A
LRR 25/020-200/M8	LRS 25/020-200/M8	25	0,20	200	8,4	8,4	140 A
LRR 35/020-250/M10	LRS 35/020-250/M10	35	0,20	250	10,5	10,5	185 A
LRR 50/020-250/M10	LRS 50/020-250/M10	50	0,20	250	10,5	10,5	240 A
LRR 75/020-300/M12	LRS 75/020-300/M12	75	0,20	300	13,2	13,2	285 A
LRR 100/020-300/M12	LRS 100/020-300/M12	100	0,20	300	13,2	13,2	350 A
LRR 120/020-350/M12	LRS 120/020-350/M12	120	0,20	350	13,2	13,2	390 A
LRR 150/020-350/M12	LRS 150/020-350/M12	150	0,20	350	13,2	13,2	450 A

COLLEGAMENTI IN CORDA DI RAME TWISTED COPPER CABLE CONDUCTORS

Rame Rosso Bare Copper	Rame Stagnato Tin-Plated Copper	Sezione Cross-Sect. [mm ²]	Filo Elem. Single wire Ø [mm]	L [mm]	D1 [mm]	D2 [mm]	Portata Current load ΔT 30 °C
LCR 10/020-200/M6	LCS 10/020-200/M6	10	0,20	200	6,4	6,4	75 A
LCR 16/020-200/M8	LCS 16/020-200/M8	16	0,20	200	8,4	8,4	110 A
LCR 25/020-200/M8	LCS 25/020-200/M8	25	0,20	200	8,4	8,4	140 A
LCR 35/020-250/M10	LCS 35/020-250/M10	35	0,20	250	10,5	10,5	185 A
LCR 50/020-250/M10	LCS 50/020-250/M10	50	0,20	250	10,5	10,5	240 A
LCR 75/020-300/M12	LCS 75/020-300/M12	75	0,20	300	13,2	13,2	285 A
LCR 100/020-300/M12	LCS 100/020-300/M12	100	0,20	300	13,2	13,2	350 A
LCR 120/020-350/M12	LCS 120/020-350/M12	120	0,20	350	13,2	13,2	390 A
LCR 150/020-350/M12	LCS 150/020-350/M12	150	0,20	350	13,2	13,2	450 A

Sezioni e forature non comprese in tabella vengono allestite su richiesta / *Special dimensions and design upon request*

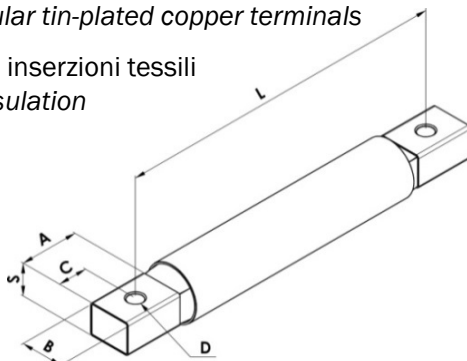
Le portate dei conduttori sono indicative (vedi pag. 28) / *Conductors current loads are approximated (please see page 28)*

Temperatura Ambiente di riferimento 35 °C / *Referred to Ambient Temperature 35 °C*

CORDE RAFFREDDATE AD ARIA

AIR-COOLED CABLES

- Filo elementare Cu-ETP UNI EN 13602 - Ø 0,10/0,20 mm
Single wire Cu-ETP UNI EN 13602 - Ø 0,10/0,20 mm
- Corda flessibile in rame rosso - Terminali in tubo di rame stagnato
Twisted bare copper cable - Tubular tin-plated copper terminals
- Rivestimento in tubo gomma con inserzioni tessili
Textile reinforced rubber tube insulation
- Isolamento speciale su richiesta
Special insulation upon request
- Consegne veloci
Punctual deliveries



SOLUZIONI PERSONALIZZATE

CUSTOM-MADE SOLUTIONS

Codice Item	Sezione Cross-Section [mm ²]	A [mm]	B [mm]	C [mm]	S [mm]	Foratura Drilling	D [mm]
FCA 150 - L	150	50	32	16	8,0	D1	13
FCA 200 - L	200				10,0		
FCA 300 - L	300				14,0		
FCA 400 - L	400				18,0		
FCA 500 - L	500				22,0		
FCA 600 - L	600				26,0		

Per ordinare, completare il codice con la misura "L" (interasse fori) / Please insert "L" dimension (distance between holes) in your orders
 Dimensioni non comprese in tabella vengono allestite su richiesta / Special dimensions and design upon request
 Connessioni raffreddate ad acqua su allestite su richiesta / Water cooled cables produced upon request

DIMENSIONI STANDARD

STANDARD DIMENSIONS

Codice Item	Sezione Cross-Section [mm ²]	A [mm]	B [mm]	C [mm]	S [mm]	L [mm]	D [mm]
FCA 300-250	300	50	32	16	14	250	13
FCA 300-300						300	
FCA 300-350						350	
FCA 300-400						400	
FCA 300-450						450	
FCA 300-500						500	
FCA 400-250	400	50	32	16	18	250	13
FCA 400-300						300	
FCA 400-350						350	
FCA 400-400						400	
FCA 400-450						450	
FCA 400-500						500	
FCA 500-300	500	50	32	16	22	300	13
FCA 500-350						350	
FCA 500-400						400	
FCA 500-450						450	
FCA 500-500						500	
FCA 500-600						600	
FCA 600-400	600	50	32	16	26	400	13
FCA 600-450						450	
FCA 600-500						500	
FCA 600-550						550	
FCA 600-600						600	
FCA 600-700						700	

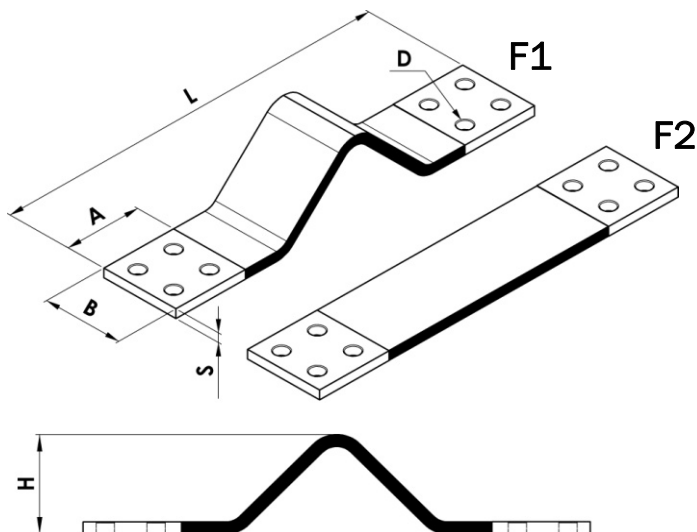
GIUNTI LAMELLARI PRESSOSTAGNATI

PRESS-TINNED LAMINATED SHUNTS



PLR - PLS

- Giunti di compensazione - Terminali pressostagnati
Compensation shunts - Press-tinned terminals
- Lamine Cu-ETP H40 UNI EN 1652 spessore 0,3/0,5 mm
H40 Cu-ETP UNI EN 1652 strips thickness 0,3/0,5 mm



- Forme e dimensioni speciali su richiesta
Special dimensions and design upon request
- Isolamento su richiesta
Insulation upon request
- Rivestimenti galvanici su richiesta
Galvanic coating upon request

Rame Rosso <i>Bare Copper</i>	Rame Stagnato <i>Tin-Plated Copper</i>	Sezione Cross-Sect. [mm ²]	A [mm]	B [mm]	S [mm]	L [mm]	H (F1) [mm]	D [mm]	Foratura Drilling	Portata Current load		
										ΔT 30 °C	ΔT 50 °C	ΔT 70 °C
PLR 100-200 F1	PLS 100-200 F1	100	50	50	2	200	30	13	D1	400 A	550 A	680 A
PLR 150-250 F1	PLS 150-250 F1	150	50	50	3	250	40	13	D1	490 A	680 A	840 A
PLR 200-300 F1	PLS 200-300 F1	200	50	50	4	300	50	13	D1	570 A	790 A	970 A
PLR 250-300 F1	PLS 250-300 F1	250	50	50	5	300	50	13	D1	650 A	890 A	1100 A
PLR 400-400 F1	PLS 400-400 F1	400	80	80	5	400	70	13	D4	950 A	1320 A	1620 A
PLR 500-400 F1	PLS 500-400 F1	500	80	80	6,3	400	70	13	D4	1070 A	1480 A	1820 A
PLR 600-400 F1	PLS 600-400 F1	600	80	80	7,5	400	70	13	D4	1180 A	1630 A	2000 A
PLR 800-400 F1	PLS 800-400 F1	800	80	80	10	400	70	13	D4	1380 A	1900 A	2330 A
PLR 1000-450 F1	PLS 1000-450 F1	1000	100	100	10	450	70	13	D5	1660 A	2280 A	2800 A
PLR 1200-450 F1	PLS 1200-450 F1	1200	100	100	12	450	70	13	D5	1830 A	2520 A	3090 A
PLR 1500-500 F1	PLS 1500-500 F1	1500	120	120	12,5	500	70	13	D7	2170 A	2990 A	3670 A
PLR 1800-500 F1	PLS 1800-500 F1	1800	120	120	15	500	70	13	D7	2390 A	3300 A	4050 A
PLR 2000-500 F1	PLS 2000-500 F1	2000	120	120	16,7	500	70	13	D7	2530 A	3490 A	4290 A

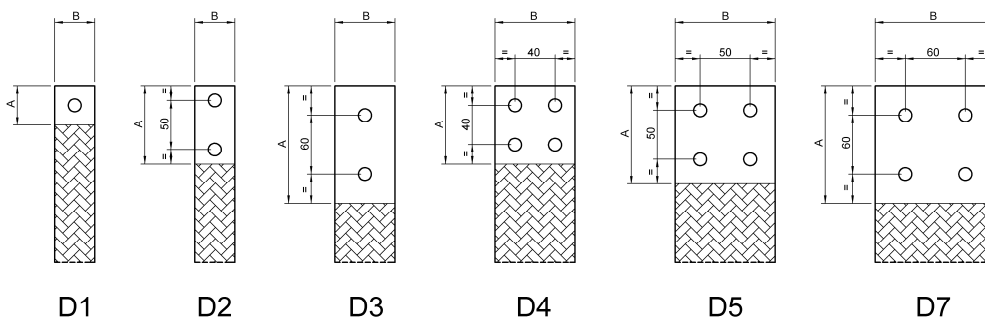
Esempio di codice di ordinazione per tipo F2: PLR 100-200 F2 / *Example of ordering code for F2 type: PLR 100-200 F2*

Sezioni e forature non comprese in tabella vengono allestite su richiesta / *Special dimensions and design upon request*

Le portate dei conduttori sono indicative (vedi pag. 28) / *Conductors current loads are approximated (please see page 28)*

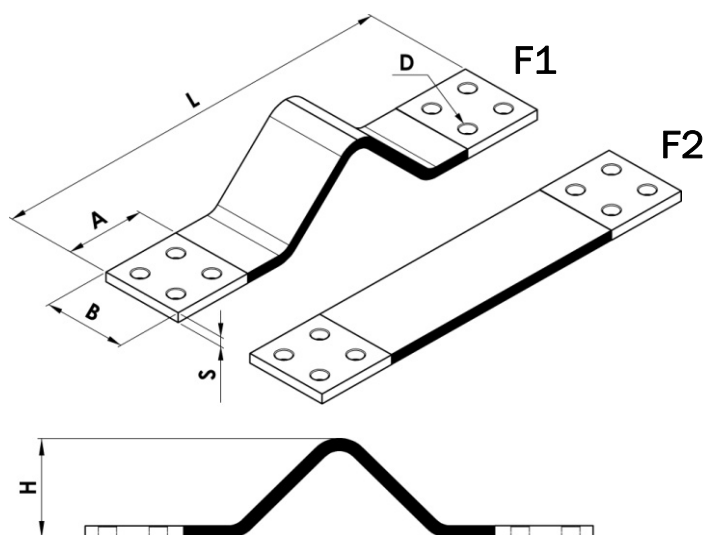
Temperatura Ambiente di riferimento 35 °C / *Referred to Ambient Temperature 35 °C*

SCHEMI DI FORATURA / DRILLING PATTERNS



GIUNTI LAMELLARI PRESSOSALDATI PRESSWELDED LAMINATED SHUNTS

- Giunti di compensazione - Terminali pressosaldati
Compensation shunts - Presswelded terminals
- Lamine Cu-ETP H40 UNI EN 1652 spessore 0,3/0,5 mm
H40 Cu-ETP UNI EN 1652 strips thickness 0,3/0,5 mm



- Forme e dimensioni speciali su richiesta
Special design upon request
- Isolamento su richiesta
Insulation upon request
- Rivestimenti galvanici su richiesta
Galvanic coating upon request

Rame Rosso Bare Copper	Sezione Cross-Sect. [mm ²]	A [mm]	B [mm]	S [mm]	L [mm]	H (F1) [mm]	D [mm]	Foratura Drilling	Portata Current load		
									ΔT 30 °C	ΔT 50 °C	ΔT 70 °C
PWD 100-200 F1	100	50	50	2	200	30	13	D1	400 A	550 A	680 A
PWD 150-250 F1	150	50	50	3	250	40	13	D1	490 A	680 A	840 A
PWD 200-300 F1	200	50	50	4	300	50	13	D1	570 A	790 A	970 A
PWD 250-300 F1	250	50	50	5	300	50	13	D1	650 A	890 A	1100 A
PWD 400-400 F1	400	80	80	5	400	70	13	D4	950 A	1320 A	1620 A
PWD 500-400 F1	500	80	80	6,3	400	70	13	D4	1070 A	1480 A	1820 A
PWD 600-400 F1	600	80	80	7,5	400	70	13	D4	1180 A	1630 A	2000 A
PWD 800-400 F1	800	80	80	10	400	70	13	D4	1380 A	1900 A	2330 A
PWD 1000-450 F1	1000	100	100	10	450	70	13	D5	1660 A	2280 A	2800 A
PWD 1200-450 F1	1200	100	100	12	450	70	13	D5	1830 A	2520 A	3090 A
PWD 1500-500 F1	1500	120	120	12,5	500	70	13	D7	2170 A	2990 A	3670 A
PWD 1800-500 F1	1800	120	120	15	500	70	13	D7	2390 A	3300 A	4050 A
PWD 2000-500 F1	2000	120	120	16,7	500	70	13	D7	2530 A	3490 A	4290 A

Codice di ordinazione per tipo F2: PWD 100-200 F2 / Ordering code for F2 type: PWD 100-200 F2

Sezioni e forature non comprese in tabella vengono allestite su richiesta / Special dimensions and design upon request

Le portate dei conduttori sono indicative (vedi pag. 28) / Conductors current loads are approximated (please see page 28)

Temperatura Ambiente di riferimento 35 °C / Referred to Ambient Temperature 35 °C

GIUNTI LAMELLARI SPECIALI SPECIAL LAMINATED SHUNTS

- Giunti personalizzati secondo disegno cliente
Laminated shunts according customers' drawing
- Giunti speciali con terminali saldati MIG-MAG/TIG
Special MIG-MAG/TIG welded terminals shunts
- Giunti in Alluminio EN AW 1050A
EN AW 1050A aluminium shunts



PACCHI LAMELLARI DINAMICI MOVING LAMINATED SHUNTS



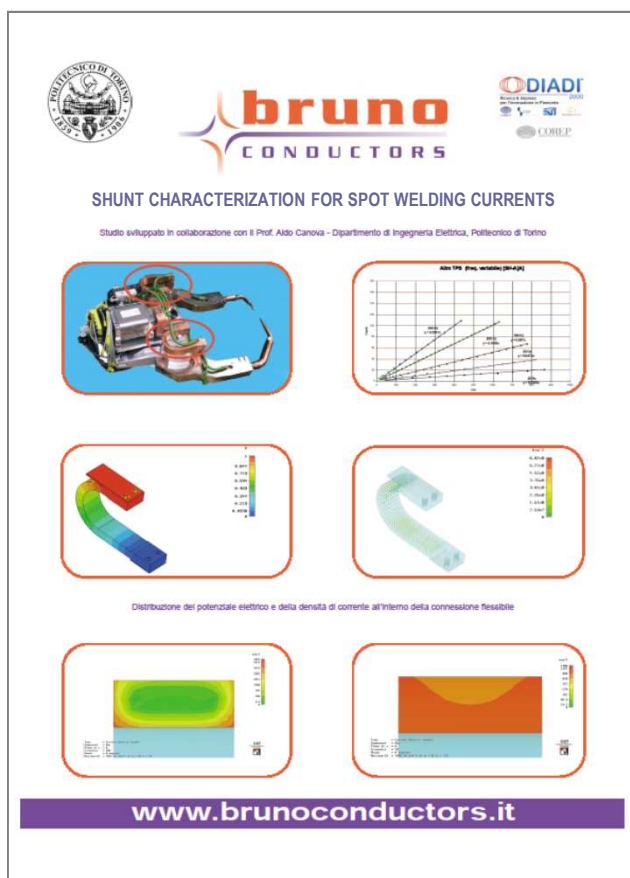
- Ampia gamma di prodotti
Wide range of products
- Soluzioni personalizzate
Custom-made solutions



- Materiali di origine certificati
Certified Origin of Materials
- Consegne veloci
Punctual deliveries



- Lamine Cu-ETP H90 UNI EN 1652
H90 Cu-ETP UNI EN 1652 strips
- Terminali rivettati, pressostagnati o pressosaldati
Riveted, press-tinned or presswelded terminals
- Realizzati in rame ROSSO, STAGNATO ed ARGENTATO per un alto rendimento delle macchine elettriche
Made in BARE, TIN-PLATED, SILVER-PLATED Copper for the highest efficiency of electric machines
- Costruiti da disegni o campioni
Manufactured from drawings or samples
- Ottimizzazione dei cicli produttivi mediante analisi FEM (Metodo degli Elementi Finiti)
Manufacturing processes optimized by FEM analysis (Finite Element Method)



PACCHI LAMELLARI SPECIALI RAFFREDDATI AD ACQUA SPECIAL WATER-COOLED SHUNTS

Pacchi lamellari dinamici di grandissima sezione corredati da terminali dissipatori raffreddati ad acqua sviluppati per le macchine di saldatura a resistenza di elevata potenza.

Very large cross-section lamellar shunts with water-cooled dissipator terminals designed for high-power resistance welding machines.

DISSIPATORE DI CALORE RAFFREDDATO AD ACQUA E AD ARIA WATER AND AIR-COOLED HEAT DISSIPATOR

Il calore viene dissipato grazie alla conduttività termica del metallo utilizzato (rame o alluminio), alle caratteristiche dell'impianto di raffreddamento ed alle correnti convettive che si generano nell'aria intorno al dissipatore.

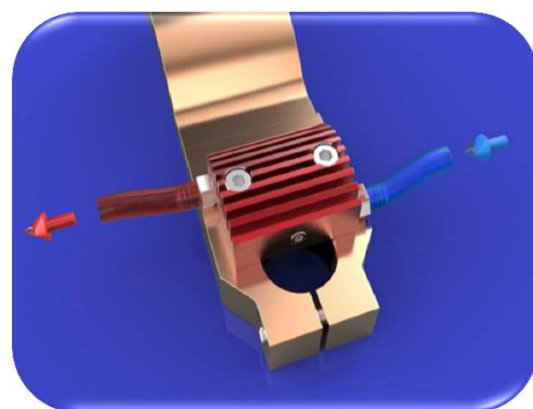
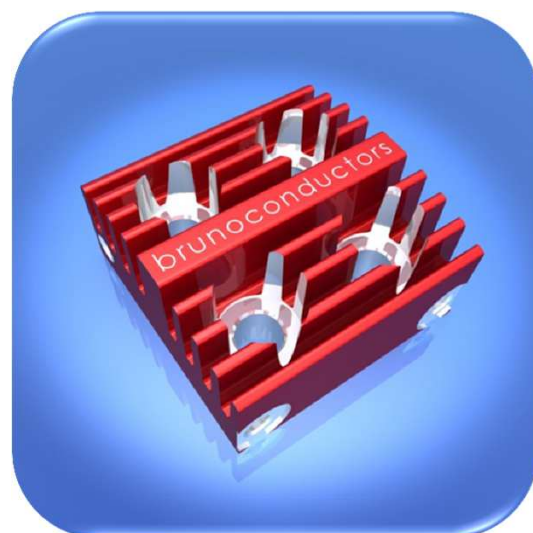
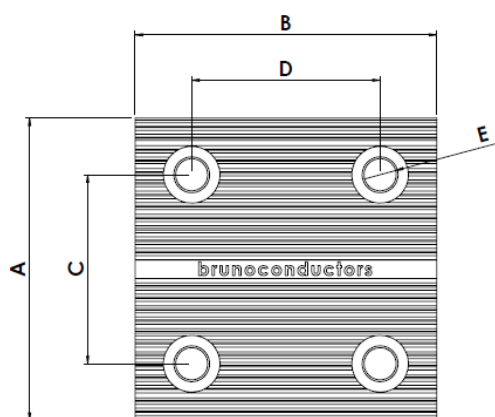
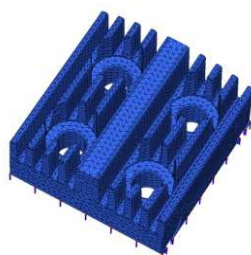
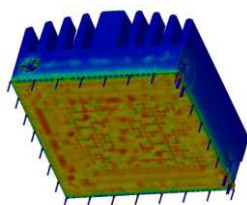
Heat can be wasted thanks to the raw material thermal conductivity (copper or aluminium), to the cooling plant peculiarity and to the convective current generated in the air around the shunt cooler.

Progettato per aumentare l'efficienza e la durata dei collegamenti elettrici flessibili impiegati nelle condizioni di lavoro piu' gravose.
It is designed to improve the duration and the efficiency of flexible conductors used in hard work applications.

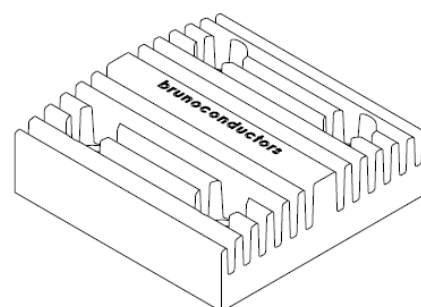
Grazie alla distribuzione della forza di serraggio migliora l'accoppiamento tra le superfici di contatto elettrico.
It improves the connection between electrical contact areas thanks to the distributed clamping strenght.

Realizzati per le esigenze speciali dei clienti
Made for customers' special needs

Soluzioni personalizzate
Custom-made solutions



Aria Air	Aria - Acqua Air - Water	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	
							SCA	SCH
SCA 50-50	SCH 50-50	50	50	25	25	8,5	25	30
SCA 60-60	SCH 60-60	60	60	30	30	8,5	25	30
SCA 80-80	SCH 80-80	80	80	40	40	13	25	30
SCA 100-100	SCH 100-100	100	100	50	50	13	25	30
SCA 120-120	SCH 120-120	120	120	60	60	13	25	30



Forme e dimensioni non comprese in tabella vengono allestite su richiesta / *Special dimensions and design upon request*

BARRE FLESSIBILI ISOLATE INSULATED FLEXIBLE BARS



- Lamina elementare Cu-ETP UNI EN 1652
Single strip Cu-ETP UNI EN 1652
- Isolamento in PVC nero autoestinguente UL 94 V0
Self extinguishing UL 94 V0 black PVC insulation
- Tensione di esercizio 1000 V AC – 1500 V DC
Operating voltage 1000 V AC – 1500 V DC
- Temperatura di esercizio -40/+105 °C
Operating temperature -40/+105 °C
- Rigidità dielettrica 20 kV/mm
Dielectric strenght 20 kV/mm
- Spessore isolamento: 1,6 - 2 mm
Insulation thickness: 1,6 - 2 mm
- Esente da alogeni / in Silicone su richiesta
Halogen free / Silicon Insulation upon request
- Lunghezza barra standard: 2 metri (speciali su richiesta)
Standard bar length: 2 meters (specials upon request)
- Barre flessibili in Rame Stagnato o Alluminio su richiesta
Tin-plated Copper or Aluminium flexible bars upon request

Temperatura ambiente di riferimento 35°C secondo norma DIN 43671

La portata è riferita alla temperatura rilevata sul conduttore = rialzo termico ΔT + temperatura ambiente di riferimento

Referred to ambient temperature of 35°C following DIN 43671 norm

Current load is referred to conductor temperature = temperature rise ΔT + referred ambient temperature

K* = coefficiente di declassamento per impiego di barre in parallelo

esempio : 32x5x1 In a ΔT 50°C = 617 A

per n° 2 barre 32x5x1 in parallelo In = 617 A x 1,72 = 1061 A

per n° 3 barre 32x5x1 in parallelo In = 617 A x 2,25 = 1388 A

K* = derating coefficient for using bars in parallel

example : 32x5x1 In at ΔT 50°C = 617 A

for n° 2 bars 32x5x1 in parallel In = 617 A x 1,72 = 1061 A

for n° 3 barre 32x5x1 in parallel In = 617 A x 2,25 = 1388 A

Corrente di corto circuito (Icc) per barre flessibili isolate : parametri di riferimento

Una barra flessibile per fase

Temperatura iniziale : 105 °C - temperatura di funzionamento massima del conduttore

Temperatura finale : 160 °C - limite di temperatura del materiale isolante in PVC secondo IEC 60724 se la sezione è < 300mm²

Temperatura finale : 140 °C - limite di temperatura del materiale isolante in PVC secondo IEC 60724 se la sezione è > 300mm²

Icc: valore della corrente di cortocircuito in kA - t = 1 s (durata del corto circuito in secondi)

Short circuit current (Icc) for Insulated flexible bars : benchmarks

One flexible element per phase

Initial temperature: 105 °C - maximal operating temperature of the conductor

Final temperature: 160 °C - temperature limit of the insulation material PVC in accordance with IEC 60724 if cross section < 300mm²

Final temperature: 140 °C - temperature limit of the insulation material PVC in accordance with IEC 60724 if cross section > 300mm²

Icc: value of short circuit current in kA - t = 1 s (duration of short circuit in seconds)

Certificazione:

Approval:



File no. E366472

COLLEGAMENTI PREFABBRICATI IN BARRA FLESSIBILE ISOLATA PREFABRICATED FLEXIBLE BAR CONNECTIONS

Siamo inoltre in grado di realizzare collegamenti speciali in barra flessibile secondo specifiche cliente.

We can also realize special flexible bar conductors according customers' requirements.

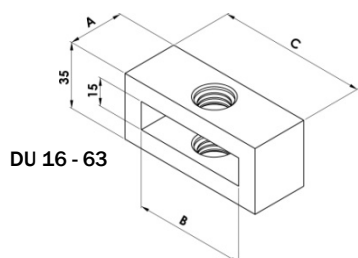


BARRE FLESSIBILI ISOLATE

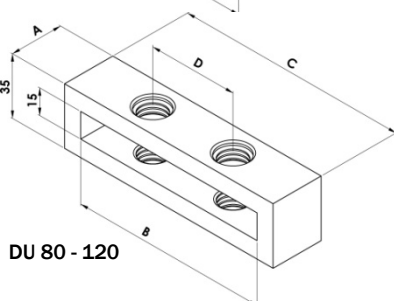
INSULATED FLEXIBLE BARS

Codice Item	Dimensioni Dimensions	Largh.		Spess.		Lamine		Sezione		Portata secondo Rialzo Termico ΔT					K *		Icc kA
		Width	[mm]		Thick.		Strips	Section	Current Load following			Temperature Rise ΔT		n° 2	n° 3		
									30 °C	40 °C	50 °C	60 °C	70 °C				
FB 09-2	9x0,8x2	9	x	0,8	x	2	14,4	95 A	114 A	130 A	144 A	157 A	1,72	2,25	1,25		
FB 09-3	9x0,8x3	9	x	0,8	x	3	21,6	119 A	140 A	162 A	180 A	195 A	1,72	2,25	1,88		
FB 09-6	9x0,8x6	9	x	0,8	x	6	43,2	176 A	210 A	240 A	256 A	290 A	1,72	2,25	3,75		
FB 09-9	9x0,8x9	9	x	0,8	x	9	64,8	225 A	268 A	306 A	340 A	370 A	1,72	2,25	5,63		
FB 13-2	13x0,5x2	13	x	0,5	x	2	13	97 A	116 A	132 A	147 A	160 A	1,72	2,25	1,13		
FB 13-3	13x0,5x3	13	x	0,5	x	3	19,5	120 A	143 A	163 A	180 A	198 A	1,72	2,25	1,70		
FB 13-4	13x0,5x4	13	x	0,5	x	4	26	140 A	166 A	190 A	210 A	230 A	1,72	2,25	2,26		
FB 13-6	13x0,5x6	13	x	0,5	x	6	39	174 A	207 A	237 A	263 A	288 A	1,72	2,25	3,40		
FB 13-10	13x0,5x10	13	x	0,5	x	10	65	232 A	275 A	316 A	350 A	363 A	1,72	2,25	5,65		
FB 16-2	15,5x0,8x2	15,5	x	0,8	x	2	24,8	140 A	168 A	192 A	214 A	234 A	1,72	2,25	2,15		
FB 16-3	15,5x0,8x3	15,5	x	0,8	x	3	37,2	175 A	209 A	239 A	255 A	290 A	1,72	2,25	3,23		
FB 16-4	15,5x0,8x4	15,5	x	0,8	x	4	49,6	205 A	244 A	279 A	310 A	339 A	1,72	2,25	4,31		
FB 16-6	15,5x0,8x6	15,5	x	0,8	x	6	74,4	257 A	306 A	350 A	389 A	424 A	1,72	2,25	6,47		
FB 16-8	15,5x0,8x8	15,5	x	0,8	x	8	99,2	303 A	360 A	412 A	458 A	500 A	1,72	2,25	8,90		
FB 16-10	15,5x0,8x10	15,5	x	0,8	x	10	124	345 A	410 A	470 A	523 A	570 A	1,72	2,25	10,78		
FB 20-2	20x1x2	20	x	1	x	2	40	193 A	220 A	263 A	292 A	319 A	1,72	2,25	3,48		
FB 20-3	20x1x3	20	x	1	x	3	60	240 A	285 A	326 A	363 A	396 A	1,72	2,25	5,22		
FB 20-4	20x1x4	20	x	1	x	4	80	280 A	324 A	381 A	424 A	463 A	1,72	2,25	6,96		
FB 20-5	20x1x5	20	x	1	x	5	100	316 A	377 A	430 A	479 A	523 A	1,72	2,25	8,70		
FB 20-6	20x1x6	20	x	1	x	6	120	350 A	418 A	477 A	521 A	580 A	1,72	2,25	10,43		
FB 20-8	20x1x8	20	x	1	x	8	160	412 A	492 A	562 A	625 A	683 A	1,72	2,25	13,91		
FB 20-10	20x1x10	20	x	1	x	10	200	470 A	560 A	640 A	710 A	776 A	1,72	2,25	17,40		
FB 24-2	24x1x2	24	x	1	x	2	48	223 A	255 A	303 A	337 A	368 A	1,72	2,25	4,17		
FB 24-3	24x1x3	24	x	1	x	3	72	276 A	329 A	375 A	417 A	456 A	1,72	2,25	6,26		
FB 24-4	24x1x4	24	x	1	x	4	96	322 A	383 A	438 A	487 A	532 A	1,72	2,25	8,35		
FB 24-5	24x1x5	24	x	1	x	5	120	363 A	438 A	494 A	550 A	600 A	1,72	2,25	10,43		
FB 24-6	24x1x6	24	x	1	x	6	144	402 A	479 A	547 A	608 A	664 A	1,72	2,25	12,52		
FB 24-8	24x1x8	24	x	1	x	8	192	470 A	552 A	641 A	713 A	779 A	1,72	2,25	16,70		
FB 24-10	24x1x10	24	x	1	x	10	240	534 A	637 A	727 A	809 A	883 A	1,72	2,25	20,87		
FB 32-2	32x1x2	32	x	1	x	2	64	280 A	334 A	382 A	424 A	463 A	1,72	2,25	5,57		
FB 32-3	32x1x3	32	x	1	x	3	96	346 A	413 A	470 A	524 A	572 A	1,72	2,25	8,35		
FB 32-4	32x1x4	32	x	1	x	4	128	402 A	480 A	548 A	610 A	668 A	1,72	2,25	11,13		
FB 32-5	32x1x5	32	x	1	x	5	160	453 A	540 A	617 A	686 A	749 A	1,72	2,25	13,91		
FB 32-6	32x1x6	32	x	1	x	6	192	500 A	596 A	680 A	756 A	826 A	1,72	2,25	16,70		
FB 32-8	32x1x8	32	x	1	x	8	256	583 A	695 A	793 A	882 A	963 A	1,72	2,25	22,26		
FB 32-10	32x1x10	32	x	1	x	10	320	657 A	783 A	894 A	995 A	1085 A	1,72	2,25	22,50		
FB 40-2	40x1x2	40	x	1	x	2	80	337 A	401 A	458 A	510 A	556 A	1,72	2,25	6,96		
FB 40-3	40x1x3	40	x	1	x	3	120	415 A	494 A	565 A	628 A	686 A	1,72	2,25	10,44		
FB 40-4	40x1x4	40	x	1	x	4	160	480 A	574 A	655 A	729 A	796 A	1,72	2,25	13,91		
FB 40-5	40x1x5	40	x	1	x	5	200	540 A	644 A	736 A	818 A	894 A	1,72	2,25	17,39		
FB 40-6	40x1x6	40	x	1	x	6	240	594 A	708 A	809	900 A	982 A	1,72	2,25	20,87		
FB 40-8	40x1x8	40	x	1	x	8	320	690 A	822 A	939 A	1044 A	1140 A	1,72	2,25	22,50		
FB 40-10	40x1x10	40	x	1	x	10	400	774 A	922 A	1053 A	1171 A	1279 A	1,65	2,12	28,12		
FB 50-3	50x1x3	50	x	1	x	3	150	498 A	594 A	679 A	755 A	824 A	1,72	2,25	13,04		
FB 50-4	50x1x4	50	x	1	x	4	200	577 A	688 A	786 A	874 A	954 A	1,72	2,25	17,39		
FB 50-5	50x1x5	50	x	1	x	5	250	645 A	770 A	880 A	978 A	1058 A	1,72	2,25	21,10		
FB 50-6	50x1x6	50	x	1	x	6	300	709 A	844 A	965 A	1073 A	1170 A	1,65	2,12	21,74		
FB 50-8	50x1x8	50	x	1	x	8	400	818 A	975 A	1114 A	1238 A	1352 A	1,65	2,12	28,12		
FB 50-10	50x1x10	50	x	1	x	10	500	914 A	1089 A	1244 A	1383 A	1510 A	1,72	2,12	35,15		
FB 63-3	63x1x3	63	x	1	x	3	189	604 A	720 A	823 A	915 A	998 A	1,65	2,12	16,44		
FB 63-4	63x1x4	63	x	1	x	4	252	698 A	832 A	960 A	1058 A	1153 A	1,65	2,12	21,92		
FB 63-5	63x1x5	63	x	1	x	5	315	779 A	929 A	1050 A	1179 A	1288 A	1,65	2,12	22,14		
FB 63-6	63x1x6	63	x	1	x	6	378	852 A	1015 A	1159 A	1289 A	1408 A	1,65	2,12	26,57		
FB 63-8	63x1x8	63	x	1	x	8	504	978 A	1166 A	1332 A	1480 A	1617 A	1,65	2,12	35,43		
FB 63-10	63x1x10	63	x	1	x	10	630	1088 A	1295 A	1480 A	1846 A	1796 A	1,65	2,12	44,29		
FB 80-3	80x1x3	80	x	1	x	3	240	729 A	880 A	1005 A	1119 A	1220 A	1,65	2,12	20,88		
FB 80-4	80x1x4	80	x	1	x	4	320	850 A	1014 A	1158 A	1286 A	1405 A	1,65	2,12	22,50		
FB 80-5	80x1x5	80	x	1	x	5	400	947 A	1128 A	1289 A	1433 A	1565 A	1,65	2,12	28,12		
FB 80-6	80x1x6	80	x	1	x	6	480	1032 A	1228 A	1404 A	1562 A	1705 A	1,65	2,12	33,74		
FB 80-8	80x1x8	80	x	1	x	8	640	1179 A	1405 A	1504 A	1784 A	1948 A	1,65	2,12	44,99		
FB 80-10	80x1x10	80	x	1	x	10	800	1305 A	1556 A	1776 A	1976 A	2156 A	1,65	2,12	56,24		
FB 100-4	100x1x4	100	x	1	x	4	400	1089 A	1297 A	1480 A	1648 A	1799 A	1,6	2,02	29,55		
FB 100-5	100x1x5	100	x	1	x	5	500	1135 A	1354 A	1545 A	1720 A	1878 A	1,6	2,02	35,15		
FB 100-6	100x1x6	100	x	1	x	6	600	1235 A	1470 A	1680 A	1869 A	2040 A	1,6	2,02	42,18		
FB 100-8	100x1x8	100	x	1	x	8	800	1404 A	1674 A	1912 A	2125 A	2320 A	1,6	2,02	56,24		
FB 100-10	100x1x10	100	x	1	x	10	1000	1550 A	1848 A	2110 A	2347 A	2562 A	1,6	2,02	70,30		
FB 100-12	100x1x12	100	x	1	x	12	1200	1680 A	2002 A	2267 A	2543 A	2776 A	1,6	2,02	84,36		
FB 120-4	120x1x4	120	x	1	x	4	480	1135 A	1350 A	1544 A	1718 A	1875 A	1,6	2,02	33,98		
FB 120-5	120x1x5	120	x	1	x	5	600	1358 A	1615 A	1848 A	2055 A	2244 A	1,6	2,02	40,42		
FB 120-6	120x1x6	120	x	1	x	6	720	1420 A	1690 A	1932 A	2148 A	2345 A	1,6	2,02	48,50		
FB 120-8	120x1x8	120	x	1	x	8	960	1614 A	1925 A	2198 A	2443 A	2668 A	1,5	1,95	64,68		
FB 120-10	120x1x10	120	x	1	x	10	1200	1848 A	2200 A	2490 A	2795 A	3053 A	1,5	1,95	80,85		

ACCESSORI TOOLS



DU 16 - 63

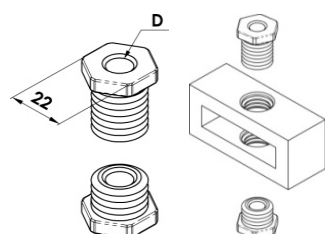


DU 80 - 120

UNITA' DI FORATURA - DRILLING UNIT

Codice Item	Barra Max. Max. Bar	A [mm]	B [mm]	C [mm]	D [mm]
DU 16	15,5x0,8x10	25	16	50	-
DU 20	20x1x10	25	20,5	50	-
DU 24	24x1x10	25	24,5	50	-
DU 32	32x1x10	30	32,5	65	-
DU 40	40x1x10	30	40,5	70	-
DU 50	50x1x10	30	50,5	80	-
DU 63	63x1x10	40	63,5	95	-
DU 80	80x1x10	40	80,5	110	40
DU 100	100x1x10	50	101	130	50
DU 120	120x1x10	50	121	150	60

Guida foro DG non inclusi / Drill guide DG not included



GUIDA FORO DRILL GUIDE

Codice Item	D [mm]
DG 07	7
DG 09	9
DG 11	11
DG 13	13

Per unità di foratura DU
For DU drilling unit

Codice Item	A x B [mm]	C x D [mm]	Ø - M	Viti Screws	Nm
BC 25	25x20	45x40	6,5-M6	M6X35	8 Nm
BC 22	20x20	40x40	6,5-M6	M6X35	8 Nm
BC 32	32x32	52x52	6,5-M6	M6X35	8 Nm
BC 42	40x20	60x40	6,5-M6	M6X35	8 Nm
BC 43	40x32	60x52	6,5-M6	M6X35	8 Nm
BC 44	40x40	60x60	6,5-M6	M6X35	8 Nm
BC 52	50x20	75x45	8,5-M8	M8x35	20 Nm
BC 54	50x40	75x65	8,5-M8	M8x35	20 Nm
BC 55	50x50	75x75	8,5-M8	M8x35	20 Nm
BC 63	63x32	88x57	8,5-M8	M8x35	20 Nm
BC 64	63x40	88x65	8,5-M8	M8x35	20 Nm
BC 66	63x63	88x88	8,5-M8	M8x35	20 Nm
BC 84	80x40	115x75	10,5-M10	M10x35	40 Nm
BC 88	80x80	115x115	10,5-M10	M10x35	40 Nm
BC 104	100x40	135x75	10,5-M10	M10x35	40 Nm
BC 106	100x63	135x98	10,5-M10	M10x35	40 Nm
BC 110	100x100	135x135	10,5-M10	M10x35	40 Nm

Capacità max. di serraggio con viti in dotazione: 20 mm
Max tightening thickness with supplied screws: 20 mm

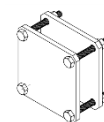
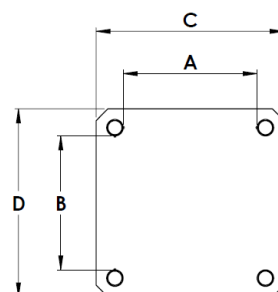
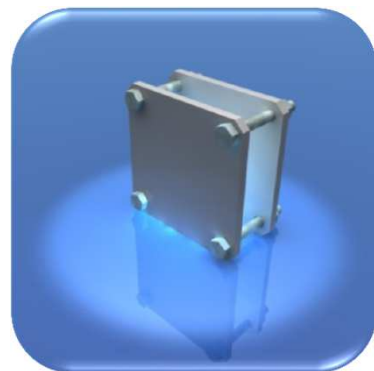
Viti in acciaio zincato classe 8.8 / Zinc plated class 8.8 steel screws

Piastrine in acciaio zincato / Zinc plated steel plates

Una piastra sp. 5 mm con fori passanti, una piastra sp. 6 mm con fori filettati

One 5 mm thick plate with through holes, one 6 mm thick plate with threaded holes

Geometrie e dimensioni speciali su richiesta / Special dimensions and design upon request

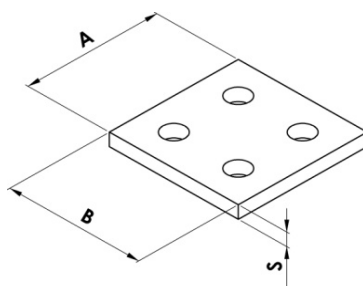


PIASTRE BIMETALLICHE BIMETALLIC PLATES

Forato Drilled	Fori Holes	A [mm]	B [mm]	S [mm]	Non forato Undrilled
DB 30	D1	30	30	1	UB 30
DB 40	D1	40	40	1	UB 40
DB 50	D1	50	50	1	UB 50
DB 60	D1	60	60	1	UB 60
DB 80	D4	80	80	1	UB 80
DB 100	D5	100	100	1	UB 100
DB 120	D7	120	120	1	UB 120

Piastrine bimetalliche Cu-ETP/Al 99,5 - fori Ø13 mm
Cu-ETP/Al 99,5 bimetallic plates - Ø13 mm holes

Geometrie e dimensioni speciali su richiesta
Special dimensions and design upon request



PIASTRE RAME STAGNATO TIN-PLATED COPPER PLATES

Forato Drilled	Fori Holes	A [mm]	B [mm]	S [mm]	Non forato Undrilled
DP 30	D1	30	30	5	UP 30
DP 40	D1	40	40	5	UP 40
DP 50	D1	50	50	5	UP 50
DP 60	D1	60	60	5	UP 60
DP 80	D4	80	80	5	UP 80
DP 100	D5	100	100	5	UP 100
DP 120	D7	120	120	5	UP 120

Piastrine stagnate Cu-ETP - fori Ø13 mm
Cu-ETP tin-plated plates - Ø13 mm holes

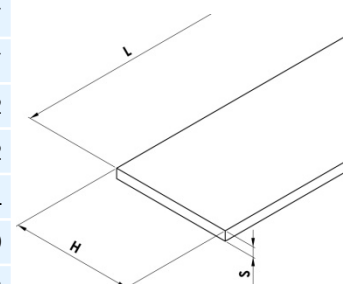
Geometrie e dimensioni speciali su richiesta
Special dimensions and design upon request

BARRE DI RAME COPPER BUSBARS

- Barre di rame Cu-ETP UNI EN 13601
Cu-ETP UNI EN 13601 copper busbars
- Stagnate, argentate e nichelate su richiesta
Tin-plated, silver-plated and nickel-plated upon request
- Piatto Rame - Spigoli arrotondati 1 mm
Flat copper bars – 1 mm radius edge
- Lunghezze e dimensioni speciali su richiesta
Special lengths and dimensions upon request

Codice Item	HxS [mm]	L [mm]	Sezione Cross-Sect. [mm ²]	Portata riferita a n° di barre in parallelo Current Load referred to no. of bars in parallel							
				ΔT 30° C [A]				ΔT 50° C [A]			
				1	2	3	4	1	2	3	4
SB 12-4	12x4	2000	48	160	292	403	451	212	387	534	598
SB 25-4	25x4	2000	100	274	500	690	772	363	663	914	1023
SB 15-5	15x5	2000	75	218	405	567	635	289	537	751	841
SB 20-5	20x5	2000	100	274	500	690	772	363	663	914	1023
SB 25-5	25x5	2000	125	327	586	795	890	433	776	1053	1179
SB 30-5	30x5	2000	150	379	672	896	1003	502	890	1187	1329
SB 40-5	40x5	2000	200	482	836	1090	1220	639	1108	1444	1617
SB 50-5	50x5	2000	250	583	994	1260	1411	772	1317	1670	1870
SB 60-5	60x5	2000	300	688	1150	1440	1613	912	1524	1908	2137
SB 80-5	80x5	2000	400	885	1450	1750	1960	1173	1921	2319	2597
SB 100-5	100x5	2000	500	1080	1730	2050	2296	1431	2292	2716	3042
SB 125-5	125x5	2000	625	1300	2022	2381	2666	1723	2679	3155	3532
SB 30-10	30x10	2000	300	573	986	1289	1547	756	1300	1701	2041
SB 40-10	40x10	2000	400	715	1230	1609	1931	944	1624	2124	2549
SB 50-10	50x10	2000	500	852	1510	2040	2448	1129	2001	2703	3243
SB 60-10	60x10	2000	600	985	1720	2300	2760	1305	2279	3048	3658
SB 80-10	80x10	2000	800	1240	2110	2790	3124	1643	2796	3697	4140
SB 100-10	100x10	2000	1000	1490	2480	3260	3651	1974	3286	4320	4838
SB 120-10	120x10	2000	1200	1740	2860	3740	4188	2306	3790	4956	5550
SB 160-10	160x10	2000	1600	2220	3590	4680	2942	4757	6201	=	=
SB 200-10	200x10	2000	2000	2690	4310	5610	3564	5711	7433	=	=

BARRE PIENE SOLID BARS



Le portate dei conduttori sono indicative (vedi pag. 28) / Current loads are approximated (please see page 28)
Temperatura Ambiente di riferimento 35 °C / Referred to Ambient Temperature 35 °C (DIN 43671)

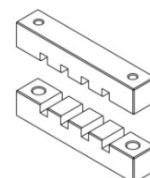
COLLEGAMENTI PREFABBRICATI IN BARRA DI RAME PREFABRICATED COPPER BUSBAR CONNECTIONS

Siamo inoltre in grado di realizzare collegamenti speciali in barra di rame secondo specifiche cliente.
We can also realize special copper busbar conductors according to customers' requirements.



SUPPORTI BARRE - DISTANZIALI PER BARRE BUSBAR SUPPORTS - BUSBAR SPACERS

Supporti e distanziali per barre realizzati in poliestere GPO3 o altri materiali secondo le specifiche cliente.
Busbar supports and spacers made by polyester GPO3 or different raw materials according to customers' requirements.



BARRE IN RAME

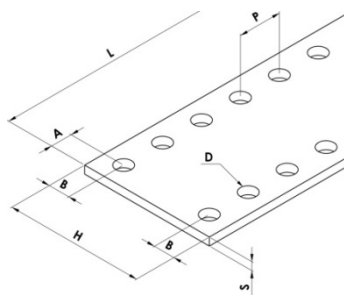
COPPER BUSBARS

- Barre di rame Cu-ETP UNI EN 13601
Cu-ETP UNI EN 13601 copper busbars
- Piatto Rame - Spigoli arrotondati 1 mm
Flat copper bars – 1 mm radius edge

- Stagnate, argentate e nichelate su richiesta
Tin-plated, silver-plated and nickel-plated upon request
- Lunghezze e dimensioni speciali su richiesta
Special lengths and dimensions upon request

BARRE FORATE

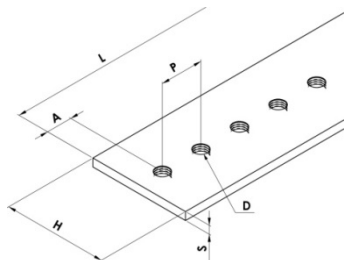
PERFORATED BARS



Codice Item	HxS [mm]	D [mm]	P [mm]	A - B [mm]	L [mm]	Sezione Cross-Sect. [mm ²]	Portata riferita a n° di barre in parallelo Current Load referred to no. of bars in parallel							
							ΔT 30° C [A]				ΔT 50° C [A]			
							1	2	3	4	1	2	3	4
PB 25-5	25x5	10,5	25	12,5	1750	125	327	586	795	890	433	776	1053	1179
PB 50-5	50x5	10,5	25	12,5	1750	250	583	940	1260	1411	772	1317	1669	1870
PB 60-5	60x5	10,5	25	12,5	1750	300	718	1197	1494	1673	951	1586	1980	2217
PB 80-5	80x5	10,5	25	12,5	1750	400	885	1450	1750	1960	1173	1921	2319	2597
PB 100-5	100x5	10,5	25	12,5	1750	500	1080	1730	2050	2296	1431	2292	2716	3042
PB 125-5	125x5	10,5	25	12,5	1750	625	1300	2022	2380	2666	1722	2679	3153	3532
PB 50-10	50x10	10,5	25	12,5	1750	500	792	1404	1897	=	1050	1861	2514	=
PB 60-10	60x10	10,5	25	12,5	1750	600	916	1600	2139	=	1214	2119	2834	=
PB 80-10	80x10	10,5	25	12,5	1750	800	1153	1962	2595	=	1528	2600	3438	=
PB 100-10	100x10	10,5	25	12,5	1750	1000	1386	2306	3032	=	1836	3056	4017	=
PB 120-10	120x10	10,5	25	12,5	1750	1200	1618	2660	3478	=	2144	3524	4609	=

BARRE FILETATE

THREADED BARS

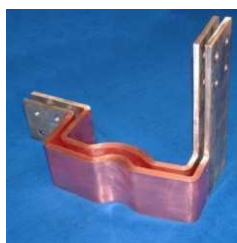
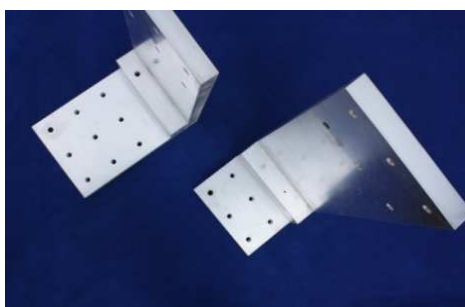
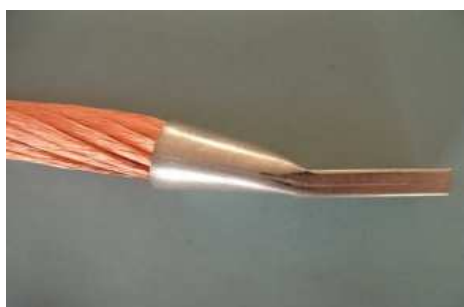


Codice Item	HxS [mm]	D [mm]	P [mm]	A [mm]	L [mm]	Sezione Cross-Sect. [mm ²]	Portata Current load [A]	
							ΔT 30° C	ΔT 50° C
TB 12-2/1	12x2	M5	18	14	1000	24	106	142
TB 12-4/1	12x4	M5	18	14	1000	48	160	210
TB 12-5/1	12x5	M5	18	14	1000	60	182	240
TB 15-4/1	15x4	M6	20	10	1000	60	188	248
TB 15-5/1	15x5	M6	25	10	1000	75	216	286
TB 20-4/1	20x4	M6	20	10	1000	80	230	304
TB 20-5/1	20x5	M6	25	12,5	1000	100	274	362
TB 25-4/1	25x4	M6	20	10	1000	100	288	380
TB 30-5/1	30x5	M6	25	12,5	1000	150	378	502
TB 32-5/1	32x5	M6	25	12,5	1000	160	400	530
TB 30-10/1	30x10	M8	25	12,5	1000	300	572	754
TB 12-2/2	12x2	M5	18	14	2000	24	106	142
TB 12-4/2	12x4	M5	18	10	2000	48	160	210
TB 12-5/2	12x5	M5	18	14	2000	60	182	240
TB 15-4/2	15x4	M6	20	10	2000	60	188	248
TB 15-5/2	15x5	M6	25	10	2000	75	216	286
TB 20-4/2	20x4	M6	20	10	2000	80	230	304
TB 20-5/2	20x5	M6	25	12,5	2000	100	274	362
TB 25-4/2	25x4	M6	20	10	2000	100	288	380
TB 30-5/2	30x5	M6	25	12,5	2000	150	378	502
TB 32-5/2	32x5	M6	25	12,5	2000	160	400	530
TB 30-10/2	30x10	M8	25	12,5	2000	300	572	754

Le portate dei conduttori sono indicative (vedi pag. 28) / Current loads are approximated (please see page 28)
Temperatura Ambiente di riferimento 35 °C / Referred to Ambient Temperature 35 °C (DIN 436701)

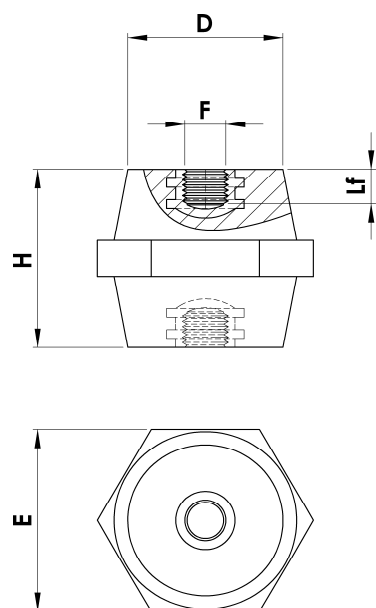
Da molti anni, oltre ad un'ampia gamma di prodotti standard, sviluppiamo e realizziamo i piu' diversi tipi di collegamenti elettrici speciali con i nostri clienti.

From many years, besides our wide range of standard products we develop and manufacture the most different types of special electrical conductors with our customers.



ISOLATORI

SPACING INSULATORS

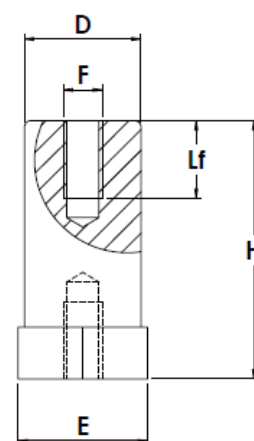


Poliammide 6 –rinforzato 30%
 Polyammide 6 – reinforced 30%
 Inserti F/F in acciaio zincato
 Inserts F/F in zinc plated steel
 Colore rosso RAL 3003
 Colour Red RAL 3003
 Autoestinguenza UL 94 V0
 Self-extinguishing UL 94 V0
 Temperatura d'impiego: -40°C to +120°C
 Working temperature: -40°C to +120°C
 Costante dielettrica (ASTM D150): 4/5
 Dielectric constant (ASTM D150): 4/5
 Resistenza all'arco (ASTM D495): sec>180
 Arc resistance (ASTM D495): sec>180
 Assorbimento acqua (ASTM D570) <1,2%
 Water absorption (ASTM D570) <1,2%

Codice Item	Dimensioni Dimensions					Caratt. Meccaniche Mechanical Data					Caratt. Elettriche Electrical Data			Imballo Packing
	H	E	F	D	Lf	Flex	Tors	Comp	Trax	Tn	Sci	Tnn	[pcs]	
12 M3-8	12	ESA 8	M 3	8	4	20	-	100	30	220	8	3	100	
15 M4-12	15	OTT 14	M 4	12	5	50	0,4	500	100	250	8	3	100	
16 M4-12	16	OTT 14	M 4	12	5	50	0,4	500	100	250	8	3	100	
20 M4-15	20	ESA 17	M 4	15	5,5	60	0,4	600	150	600	15	5	100	
20 M5-15	20	ESA 17	M 5	15	5,5	60	0,4	600	150	600	15	5	100	
20 M6-15	20	ESA 17	M 6	15	5,5	60	0,4	600	150	600	15	5	100	
25 M4-15	25	ESA 19	M 4	15	8	170	3	2300	400	600	20	7	100	
25 M5-15	25	ESA 19	M 5	15	8	170	3	2300	400	600	20	7	100	
25 M6-15	25	ESA 19	M 6	15	8	170	3	2300	400	600	20	7	100	
30 M6-26	30	ESA 30	M 6	26	9	250	3	4900	600	750	25	8	50	
30 M8-26	30	ESA 30	M 8	26	9	250	3	4900	600	750	25	8	50	
35 M6-28	35	ESA 32	M 6	28	10,5	450	5	6800	850	1000	30	10	50	
35 M8-28	35	ESA 32	M 8	28	10,5	450	5	6800	850	1000	30	10	50	
35 M10-28	35	ESA 32	M 10	28	10,5	450	5	6800	850	1000	30	10	50	
35 M6-33	35	OTT 41	M 6	33	10,5	800	10	8300	1100	1000	40	10	50	
35 M8-33	35	OTT 41	M 8	33	10,5	800	10	8300	1100	1000	40	10	50	
35 M10-33	35	OTT 41	M 10	33	10,5	800	10	8300	1100	1000	40	10	50	
36 M6-33	36	ESA 41	M 6	33	10,5	800	10	8300	1100	1000	40	10	50	
36 M8-33	36	ESA 41	M 8	33	10,5	800	10	8300	1100	1000	40	10	50	
36 M10-33	36	ESA 41	M 10	33	10,5	800	10	8300	1100	1000	40	10	50	
36 M12-33	36	ESA 41	M 12	33	10,5	800	10	8300	1100	1000	40	10	50	
40 M6-28	40	ESA 32	M 6	28	10,5	750	-	8300	1300	1000	40	10	50	
40 M8-28	40	ESA 32	M 8	28	10,5	750	-	8300	1300	1000	40	10	50	
40 M10-28	40	ESA 32	M 10	28	10,5	750	-	8300	1300	1000	40	10	50	
40 M12-28	40	ESA 32	M 12	28	10,5	750	-	8300	1300	1000	40	10	50	
41 M6-40	41	ESA 47	M 6	40	10,5	800	10	8300	1100	1000	40	10	25	
41 M8-40	41	ESA 47	M 8	40	10,5	800	10	8300	1100	1000	40	10	25	
41 M10-40	41	ESA 47	M 10	40	10,5	800	10	8300	1100	1000	40	10	25	
41 M12-40	41	ESA 47	M 12	40	10,5	800	10	8300	1100	1000	40	10	25	
45 M6-33	45	OTT 41	M 6	33	15	800	10	9800	1300	1000	40	12	25	
45 M8-33	45	OTT 41	M 8	33	15	800	10	9800	1300	1000	40	12	25	
45 M10-33	45	OTT 41	M 10	33	15	800	10	9800	1300	1000	40	12	25	
46 M8-41	46	OTT 50	M 8	41	15	800	10	9800	1300	1000	40	12	25	
46 M10-41	46	OTT 50	M 10	41	15	800	10	9800	1300	1000	40	12	25	
46 M12-41	46	OTT 50	M 12	41	15	800	10	9800	1300	1000	40	12	25	
46 M6-40	46	ESA 46	M 6	40	15	800	10	9800	1300	1000	40	12	25	
46 M8-40	46	ESA 46	M 8	40	15	800	10	9800	1300	1000	40	12	25	
46 M10-40	46	ESA 46	M 10	40	15	800	10	9800	1300	1000	40	12	25	
46 M12-40	46	ESA 46	M 12	40	15	800	10	9800	1300	1000	40	12	25	
50 M6-29	50	ESA 36	M 6	29	15	450	5	6800	850	1500	40	15	25	
50 M8-29	50	ESA 36	M 8	29	15	450	5	6800	850	1500	40	15	25	
50 M10-29	50	ESA 36	M 10	29	15	450	5	6800	850	1500	40	15	25	
50 M12-29	50	ESA 36	M 12	29	15	450	5	6800	850	1500	40	15	25	
51 M6-42	51	ESA 50	M 6	42	15	800	10	9800	1300	1500	40	12	25	
51 M8-42	51	ESA 50	M 8	42	15	800	10	9800	1300	1500	40	12	25	
51 M10-42	51	ESA 50	M 10	42	15	800	10	9800	1300	1500	40	12	25	
51 M12-42	51	ESA 50	M 12	42	15	800	10	9800	1300	1500	40	12	25	
55 M6-45	55	ESA 55	M 6	45	15	800	10	11700	1500	2000	40	15	10	
55 M8-45	55	ESA 55	M 8	45	15	800	10	11700	1500	2000	40	15	10	
55 M10-45	55	ESA 55	M 10	45	15	800	10	11700	1500	2000	40	15	10	
55 M12-45	55	ESA 55	M 12	45	15	800	10	11700	1500	2000	40	15	10	
60 M8-42	60	OTT 54	M 8	42	15	800	10	11700	1500	2000	50	15	10	
60 M10-42	60	OTT 54	M 10	42	15	800	10	11700	1500	2000	50	15	10	
60 M12-42	60	OTT 54	M 12	42	15	800	10	11700	1500	2000	50	15	10	
63 M8-32	63	ESA 41	M 8	32	15	550	5	8300	950	2000	50	20	10	
63 M10-32	63	ESA 41	M 10	32	15	550	5	8300	950	2000	50	20	10	
63 M12-32	63	ESA 41	M 12	32	15	550	5	8300	950	2000	50	20	10	
75 M8-35	75	ESA 50	M 8	35	15	900	10	12300	2350	3600	50	25	10	
75 M10-35	75	ESA 50	M 10	35	15	900	10	12300	2350	3600	50	25	10	
75 M12-35	75	ESA 50	M 12	35	15	900	10	12300	2350	3600	50	25	10	
75 M16-35	75	ESA 50	M 16	35	15	900	10	12300	2350	3600	50	25	10	
100 M8-49	100	ESA 65	M 8	49	30	1550	14	16700	2950	3600	50	30	10	
100 M10-49	100	ESA 65	M 10	49	30	1550	14	16700	2950	3600	50	30	10	
100 M12-49	100	ESA 65	M 12	49	30	1550	14	16700	2950	3600	50	30	10	
100 M16-49	100	ESA 65	M 16	49	30	1550	14	16700	2950	3600	50	30	10	

COLONNINE DISTANZIALI SPACING COLUMNS

Codice Item	Dimensioni Dimensions					Caratt. Meccaniche Mechanical Data				Caratt. Elettriche Electrical Data			Imballo Packing
	H	E	F	D	Lf	Flex	Tors	Comp	Trax	Tn	Sci	Tnn	[pcs]
C16 M4-20	16	ESA 21	M 4	20	3,9	250	-	400	400	400	10	3	100
C16 M5-20	16	ESA 21	M 5	20	3,9	250	-	400	400	400	10	3	100
C16 M6-20	16	ESA 21	M 6	20	3,9	250	-	400	400	400	10	3	100
C20 M4-20	20	ESA 21	M 4	20	5	250	-	600	400	600	10	4	100
C20 M5-20	20	ESA 21	M 5	20	5	250	-	600	400	600	10	4	100
C20 M6-20	20	ESA 21	M 6	20	5	250	-	600	400	600	10	4	100
C25 M5-20	25	ESA 21	M 5	20	8	200	5	600	400	600	15	5	100
C25 M6-20	25	ESA 21	M 6	20	8	200	5	600	400	600	15	5	100
C25 M8-20	25	ESA 21	M 8	20	8	200	5	600	400	600	15	5	100
C30 M5-20	30	ESA 21	M 5	20	9	200	5	600	400	600	15	5	50
C30 M6-20	30	ESA 21	M 6	20	9	200	5	600	400	600	15	5	50
C30 M8-20	30	ESA 21	M 8	20	9	200	5	600	400	600	15	5	50
C35 M5-20	35	ESA 21	M 5	20	9	150	8	600	400	600	25	8	50
C35 M6-20	35	ESA 21	M 6	20	9	150	8	600	400	600	25	8	50
C35 M8-20	35	ESA 21	M 8	20	9	150	8	600	400	600	25	8	50
C40 M5-20	40	ESA 21	M 5	20	9	150	8	600	400	600	25	8	50
C40 M6-20	40	ESA 21	M 6	20	9	150	8	600	400	600	25	8	50
C40 M8-20	40	ESA 21	M 8	20	9	150	8	600	400	600	25	8	50
C45 M5-20	45	ESA 21	M 5	20	9	150	8	600	400	600	25	8	50
C45 M6-20	45	ESA 21	M 6	20	9	150	8	600	400	600	25	8	50
C45 M8-20	45	ESA 21	M 8	20	9	150	8	600	400	600	25	8	50
C50 M5-20	50	ESA 21	M 5	20	9	100	10	750	400	750	30	10	50
C50 M6-20	50	ESA 21	M 6	20	9	100	10	750	400	750	30	10	50
C50 M8-20	50	ESA 21	M 8	20	9	100	10	750	400	750	30	10	50
C30 M6-30	30	ESA 30	M 6	30	9	450	8	750	900	750	25	8	50
C30 M8-30	30	ESA 30	M 8	30	9	450	8	750	900	750	25	8	50
C30 M10-30	30	ESA 30	M 10	30	9	450	8	750	900	750	25	8	50
C35 M6-30	35	ESA 30	M 6	30	10,5	450	8	750	900	750	25	8	50
C35 M8-30	35	ESA 30	M 8	30	10,5	450	8	750	900	750	25	8	50
C35 M10-30	35	ESA 30	M 10	30	10,5	450	8	750	900	750	25	8	50
C40 M6-30	40	ESA 30	M 6	30	10,5	300	10	1.000	900	1.000	30	10	25
C40 M8-30	40	ESA 30	M 8	30	10,5	300	10	1.000	900	1.000	30	10	25
C40 M10-30	40	ESA 30	M 10	30	10,5	300	10	1.000	900	1.000	30	10	25
C45 M6-30	45	ESA 30	M 6	30	15	300	10	1.000	900	1.000	30	10	25
C45 M8-30	45	ESA 30	M 8	30	15	300	10	1.000	900	1.000	30	10	25
C45 M10-30	45	ESA 30	M 10	30	15	300	10	1.000	900	1.000	30	10	25
C45 M12-30	45	ESA 30	M 12	30	15	300	10	1.000	900	1.000	30	10	25
C50 M6-30	50	ESA 30	M 6	30	15	200	15	1.500	900	1.500	40	10	25
C50 M8-30	50	ESA 30	M 8	30	15	200	15	1.500	900	1.500	40	10	25
C50 M10-30	50	ESA 30	M 10	30	15	200	15	1.500	900	1.500	40	10	25
C55 M6-30	55	ESA 30	M 6	30	15	200	15	1.500	900	1.500	40	10	25
C55 M8-30	55	ESA 30	M 8	30	15	200	15	1.500	900	1.500	40	10	25
C55 M10-30	55	ESA 30	M 10	30	15	200	15	1.500	900	1.500	40	10	25
C60 M6-30	60	ESA 30	M 6	30	15	150	15	1.500	900	1.500	40	15	25
C60 M8-30	60	ESA 30	M 8	30	15	150	15	1.500	900	1.500	40	15	25
C60 M10-30	60	ESA 30	M 10	30	15	150	15	1.500	900	1.500	40	15	25
C65 M6-30	65	ESA 30	M 6	30	15	150	15	1.500	900	1.500	40	15	25
C65 M8-30	65	ESA 30	M 8	30	15	150	15	1.500	900	1.500	40	15	25
C65 M10-30	65	ESA 30	M 10	30	15	150	15	1.500	900	1.500	40	15	25
C70 M6-30	70	ESA 30	M 6	30	15	150	15	1.500	900	1.500	40	15	25
C70 M8-30	70	ESA 30	M 8	30	15	150	15	1.500	900	1.500	40	15	25
C70 M10-30	70	ESA 30	M 10	30	15	150	15	1.500	900	1.500	40	15	25
C45 M8-40	45	ESA 41	M 8	40	15	500	10	1.000	1.000	1.000	30	10	20
C45 M10-40	45	ESA 41	M 10	40	15	500	10	1.000	1.000	1.000	30	10	20
C50 M8-40	50	ESA 41	M 8	40	15	500	10	1.500	1.000	1.500	40	10	20
C50 M10-40	50	ESA 41	M 10	40	15	500	10	1.500	1.000	1.500	40	10	20
C50 M12-40	50	ESA 41	M 12	40	15	500	10	1.500	1.000	1.500	40	10	20
C55 M8-40	55	ESA 41	M 8	40	15	500	10	1.500	1.000	1.500	40	10	20
C55 M10-40	55	ESA 41	M 10	40	15	500	10	1.500	1.000	1.500	40	10	20
C55 M12-40	55	ESA 41	M 12	40	15	500	10	1.500	1.000	1.500	40	10	20
C60 M8-40	60	ESA 41	M 8	40	15	370	15	1.500	1.000	1.500	40	15	20
C60 M10-40	60	ESA 41	M 10	40	15	370	15	1.500	1.000	1.500	40	15	20
C60 M12-40	60	ESA 41	M 12	40	15	370	15	1.500	1.000	1.500	40	15	20
C65 M8-40	65	ESA 41	M 8	40	15	370	15	1.500	1.000	1.500	40	15	15
C65 M10-40	65	ESA 41	M 10	40	15	370	15	1.500	1.000	1.500	40	15	15
C65 M12-40	65	ESA 41	M 12	40	15	370	15	1.500	1.000	1.500	40	15	15
C70 M8-40	70	ESA 41	M 8	40	15	370	15	1.500	1.000	1.500	40	15	15
C70 M10-40	70	ESA 41	M 10	40	15	370	15	1.500	1.000	1.500	40	15	15
C70 M12-40	70	ESA 41	M 12	40	15	370	15	1.500	1.000	1.500	40	15	15



Caratteristiche Meccaniche Mechanical Data

Flex	resistenza alla flessione bending strength
Tors	resistenza alla torsione torsional strength
Comp	resistenza alla compressione compression strength
Trax	resistenza alla trazione tensile strength

Valori espressi in daN – 1 daN = 1Kg
Values in daN – 1 daN = 1Kg

Caratteristiche Elettriche Electrical Characteristics

Tn	tensione nominale nominal voltage [Volt - AC - DC]
Sci	tensione scarica interna internal discharge voltage [kVolt - AC]
Tnn	tensione nominale a 50Hz nominal voltage at 50Hz per 1 minuto – for 1 minute [kV]

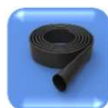
GUAINE ISOLANTI TERMORESTRINGENTI

HEAT SHRINK TUBING



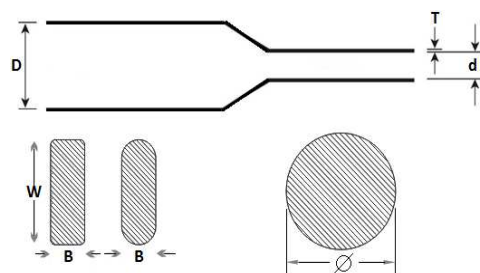
Caratteristiche Tecniche Technical Characteristics

Descrizione Prova / Test description	Risultato / Recorded result	Secondo Norma / Following norm
Fisiche - Physical		
Poliolfina irradiata / Crosslinked polyolefin		
Resistenza alla trazione / Tensile strength	12 N/mm ² (min.)	ASTM D638
Allungamento a rottura / Ultimate elongation	300% (min.)	ASTM D638
Assorbimento acqua / Water absorption	0,5 % (max.)	ASTM D570
Densità / Density	1,2 ± 0,2 gm/cm ³	ASTM D792
Durezza / Hardness	45 ± 10 shore D	ASTM D2240
Termiche - Thermal		
Invecchiamento accelerato / Accelerate ageing (a+b)	120 °C x 500 hrs	ASTM D2671
Resistenza alla trazione / Tensile strength (a)	10 N/mm ² (min.)	ASTM D638
Allungamento a rottura / Ultimate elongation (b)	250% (min.)	ASTM D638
Flessibilità a bassa temperatura / Low temperature flexibility (- 40 °C x 4 hrs)	Nessuna fessuraz./No cracking	ASTM D2671
Shock termico / Heat shock (250 °C x 30 min.)	Nessuna fessuraz./No cracking	ESI 09-11
Temperatura di restringimento / Shrink temperature	125 °C	IEC 216
Temperatura di funzionamento / Continuous temperature limit	- 55 °C +125 °C (GSC)	IEC 216
Temperatura di funzionamento / Continuous temperature limit	- 40 °C +115 °C (GMB - GHB)	IEC 216
Elettriche - Electrical		
Rigidità dielettrica / Dielectric strength	22 kV/mm (min.)	ASTM D149
Resistività in volume / Volume resistivity	1x10 ¹⁴ Ohm.cm (min.)	ASTM D257
Costante dielettrica / Dielectric constant	5 (max)	ASTM D150
Resistenza alla traccia ed erosione / Resistant to track & erosion	fino a/up to 3,25 kV x 20 (min.)	ASTM D2303



GUAINE A BASSO SPESSORE DI PARETE THIN WALL TUBE

Isolamento elettrico Electrical insulation	fino a up to	1,1 kV	Colore nero Black color
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Codice Item	D min.	d max.	T ± 10%	Confez. Pack.	Barra rettangolare W+B Rectangular bar W+B		Barra tonda Ø Round bar Ø	
					min. [mm]	max. [mm]	min. [mm]	max. [mm]
		[mm]		[m]				
GSC 1.5/0.75	1,5	0,75	0,28	200	=	=	=	=
GSC 2.5/1.2	2,5	1,2	0,44	200	=	=	=	=
GSC 4/2	4	2	0,44	200	=	=	=	=
GSC 6/3	6	3	0,56	100	=	=	=	=
GSC 10/5	10	5	0,56	100	=	=	=	=
GSC 12.7/6.35	12,7	6,35	0,56	100	=	=	=	=
GSC 16/8	15	7,5	0,69	100	12	18	8	12
GSC 20/10	20	10	0,78	100	16	25	12	16
GSC 25/12.5	25	12,5	0,78	50	20	31	14	20
GSC 30/15	30	15	0,86	50	23	38	18	24
GSC 40/20	40	20	0,6	50	34	52	23	33
GSC 50/25	50	25	0,96	25	43	65	28	41
GSC 76/38	76	38	1,27	25	63	97	44	62
GSC 100/50	100	50	1,40	25	102	125	55	80
GCS 150/75	150	75	1,40	25	119	190	80	121

Diametri fino a 250 mm ed altri colori disponibili su richiesta / Up to 250 mm diameters and other colors available upon request

GUAINE ISOLANTI TERMORESTRINGENTI

HEAT SHRINK TUBING

Isolamento elettrico
Electrical insulation

fino a
up to

24 kV

Colore rosso
Red brick color

GUAINE A MEDIO SPESSORE DI PARETE
MEDIUM WALL TUBE



Codice Item	D min.	d max.	T ± 10%	Confez. Pack.	Barra rettangolare W+B <i>Rectangular bar W+B</i>		Barra tonda Ø <i>Round bar Ø</i>	
					min. [mm]	max. [mm]	min. [mm]	max. [mm]
GMB 16/6	16	6	2,0	25	12	18	6,5	12
GMB 25/8	25	8	2,5	25	16	30	9	20
GMB 30/12	30	12	2,5	25	22	38	13,5	25
GMB 40/16	40	16	2,5	25	29	50	18	32
GMB 50/20	50	20	2,5	25	36	63	22	40
GMB 65/25	65	25	2,7	25	46	82	28	52
GMB 75/28	75	28	3,0	25	55	94	33	60
GMB 85/32	85	32	3,0	25	58	107	37	68
GMB 100/38	100	38	3,0	25	70	126	44	80
GMB 120/45	120	45	3,0	15	90	150	55	96
GMB 150/60	150	60	3,0	15	110	200	70	127
GMB 180/70	180	70	3,0	15	125	226	80	144
GMB 205/85	205	85	3,0	15	200	257	127	164
GMB 250/120	250	120	3,0	15	220	314	140	200

Isolamento elettrico
Electrical insulation

fino a
up to

36 kV

Colore rosso
Red brick color

GUAINE AD ALTO SPESSORE DI PARETE
HIGH WALL TUBE



Codice Item	D min.	d max.	T ± 10%	Confez. Pack.	Barra rettangolare W+B <i>Rectangular bar W+B</i>		Barra tonda Ø <i>Round bar Ø</i>	
					min. [mm]	max. [mm]	min. [mm]	max. [mm]
GHB 25/8	25	8	3.7	25	17	28	11	20
GHB 30/12	30	12	4.0	25	21	33	15	25
GHB 40/16	40	16	4.0	25	28	45	15	32
GHB 50/20	50	20	4.0	25	34	54	24	40
GHB 65/25	65	25	4.0	25	41	62	27	43
GHB 75/28	75	28	4.0	20	47	69	28	47
GHB 85/32	85	32	4.0	20	58	100	37	68
GHB 100/38	100	38	4.2	20	69	102	44	72
GHB 120/45	120	45	4.2	15	83	125	50	85
GHB 150/60	150	60	4.5	15	102	168	65	105
GHB 180/70	180	70	4.5	15	133	196	85	125
GHB 205/85	205	85	4.5	15	200	250	127	164
GHB 250/120	250	120	4.5	15	220	314	140	200

Altri diametri disponibili su richiesta / *Other diameters available upon request*

Tensione Voltage	Distanze con isolamento - <i>Clearance with insulation</i>				Distanze senza isolamento <i>Clearance without insulation</i>
	Medio spessore serie GMB <i>Medium wall tube GMB series</i>		Alto spessore serie GHB <i>Heavy wall tube GHB series</i>		
	fase - fase <i>phase to phase</i>	fase - terra <i>phase to ground</i>	fase - fase <i>phase to phase</i>	fase - terra <i>phase to ground</i>	
12 kV	65 mm	75 mm	35 mm	45 mm	120 mm
17,5 kV	85 mm	105 mm	55 mm	65 mm	160 mm
24 kV	115 mm	150 mm	70 mm	100 mm	220 mm
36 kV	200 mm	285 mm	140 mm	190 mm	320 mm

BUS TAPE

NASTRO TERMORESTRINGENTE per isolamento in Media Tensione
HEAT SHRINK TAPE for Medium Voltage insulation

Codice Item	Larghezza Width	Lunghezza Length	Spessore Thickness
GMT-2	50 mm	5,0 m	1,0 ± 0,10 mm
GMT-2L	50 mm	15,0 m	1,0 ± 0,10 mm



DATI TECNICI

TECHNICAL INFORMATION

Le portate definite nelle tabelle fanno riferimento alle temperature del conduttore di 65 e di 105 °C ed alla temperatura ambiente di 35 °C. Esse costituiscono valori indicativi validi per collegamenti non inguainati. In caso di utilizzo di guaine isolanti prevedere un fattore di riduzione della portata di circa il 15%.

Si prega di tenere in considerazione che la temperatura di un conduttore dipende dalle condizioni di installazione e di funzionamento e se necessario deve essere previsto un coefficiente di riduzione della portata. La sezione di un flessibile non può essere ridotta oltre l'80% di quella delle barre piene in accordo con la norma DIN 46276.

Current loads on our data sheets are related to the temperatures of the conductor of 65 °C and 105 °C and to the ambient temperature of 35 °C. These are approximated values for non insulated connections.

For insulated applications please consider a reducing current load factor about 15%.

Please notice that the temperature of a conductor depends on the installation and the working conditions and a reducing current load factor has to be considered if necessary.

The cross-section of a flexible conductor cannot be reduced by over 80% of the same section of a solid bar according to DIN 46276 norm.

Fattore di correzione della portata H

Adjustment current load factor H

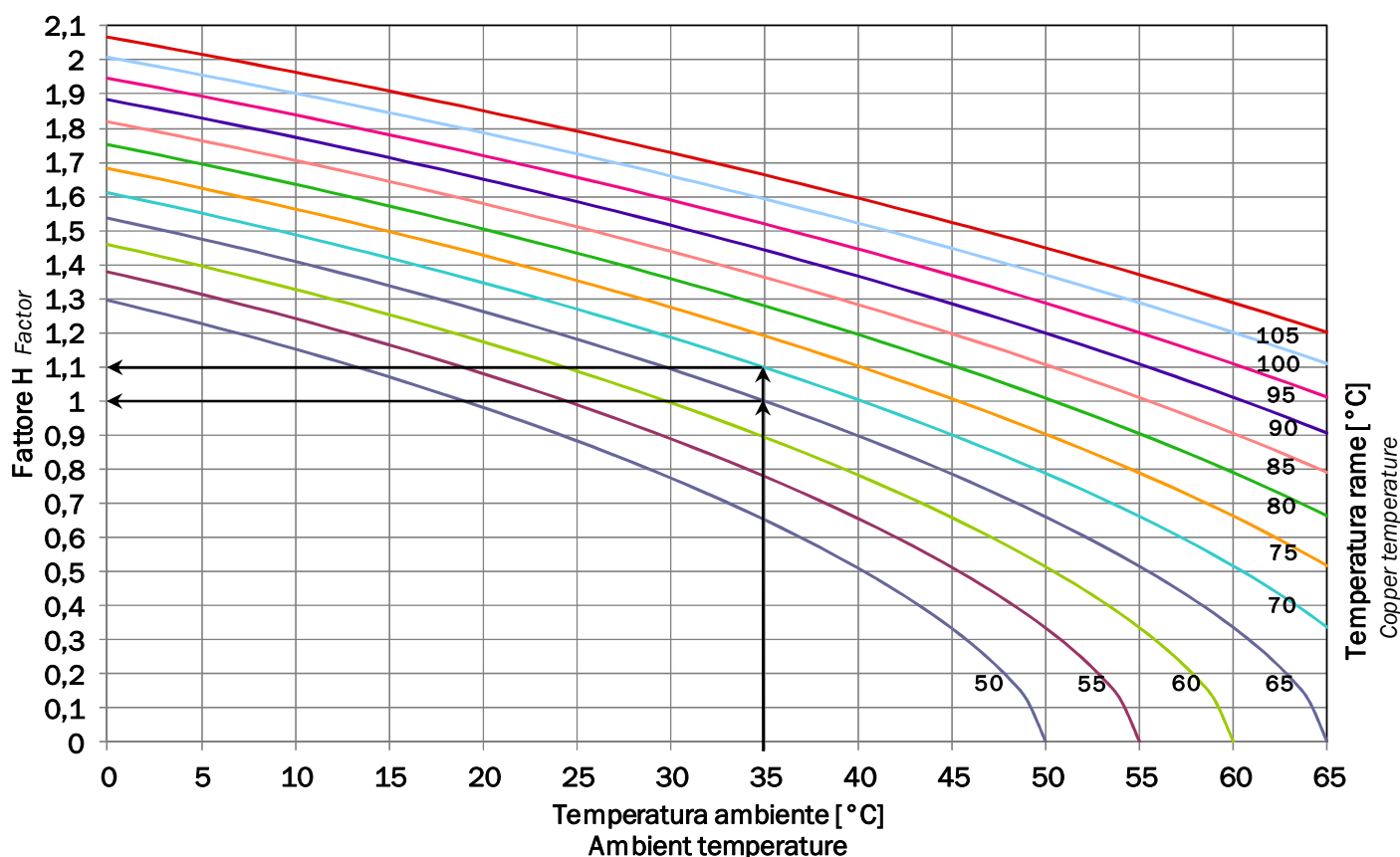
I valori di portata definiti nelle tabelle possono essere corretti in funzione delle variazioni di temperatura.

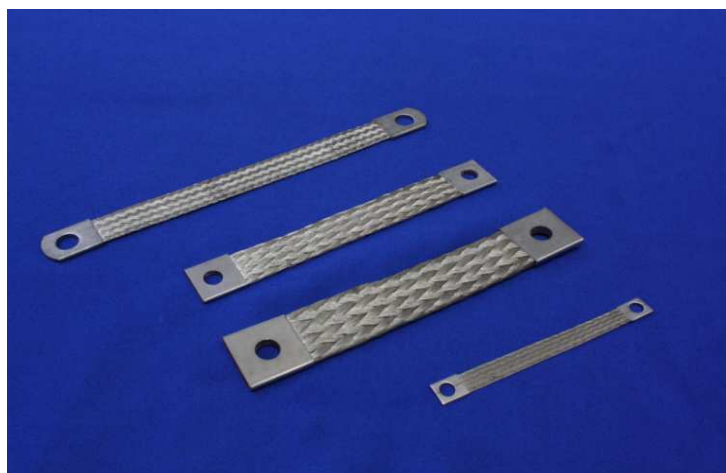
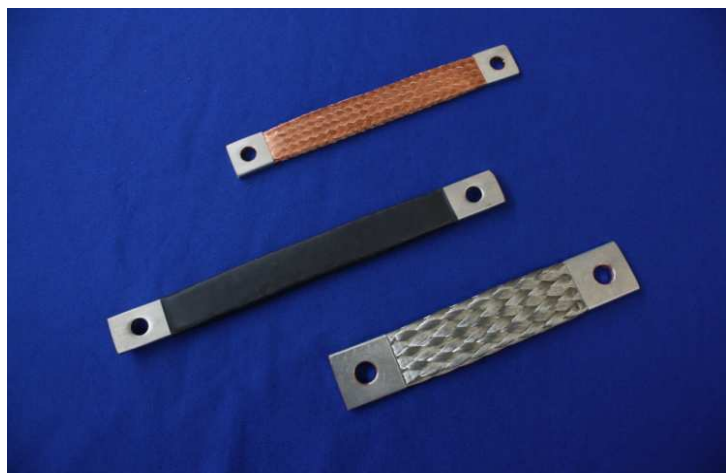
Il fattore di correzione della portata H è uguale ad 1 alla temperatura ambiente di 35 °C ed alla temperatura del conduttore di 65 °C. Se per esempio alla medesima temperatura ambiente di 35 °C si ammettesse una temperatura sul conduttore di 70 °C, la portata di corrente va moltiplicata per il fattore correttivo H=1,1.

Current loads on our data sheets can be adjusted with reference to variations of temperature.

Adjustment Current load factor H=1 at ambient temperature of 35 °C and copper temperature of 65 °C.

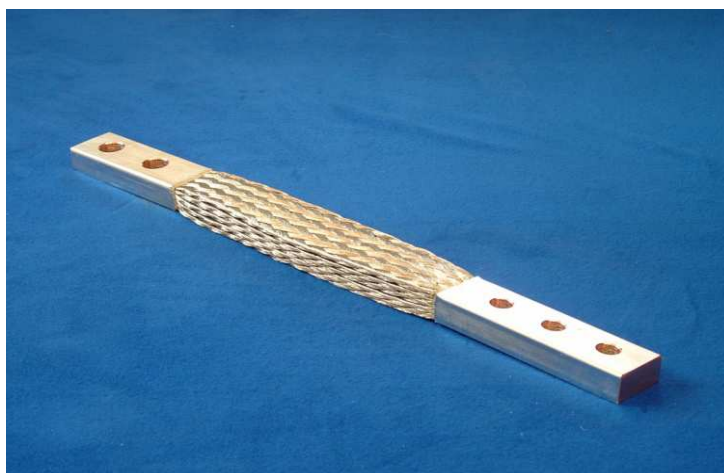
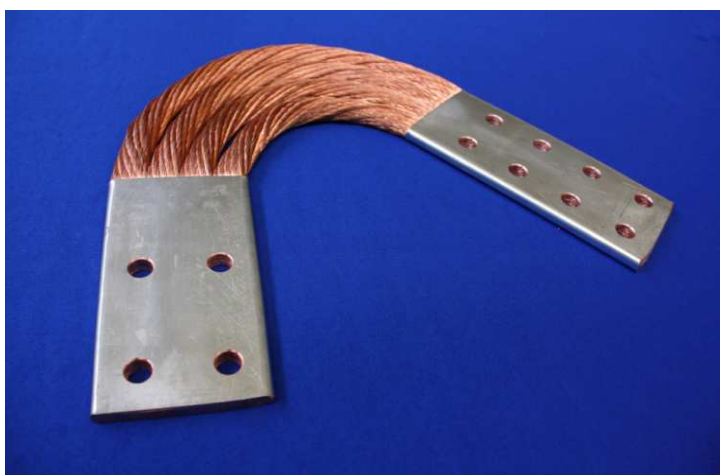
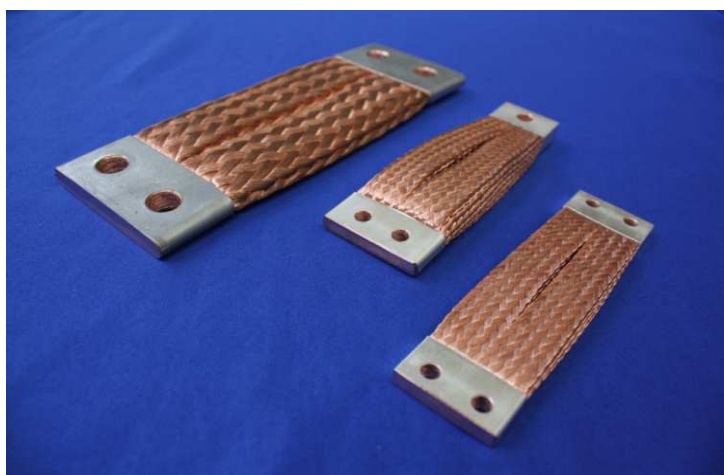
For example, if you allow at the same ambient temperature of 35 °C a copper temperature of 70 °C, the current load has to be multiplied for a factor H=1,1.

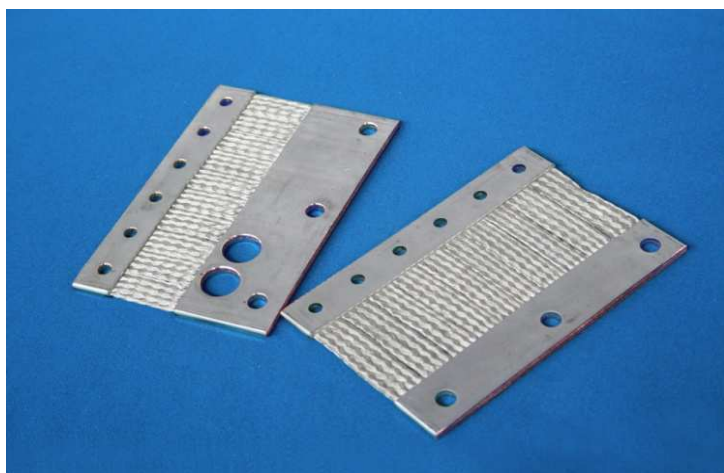
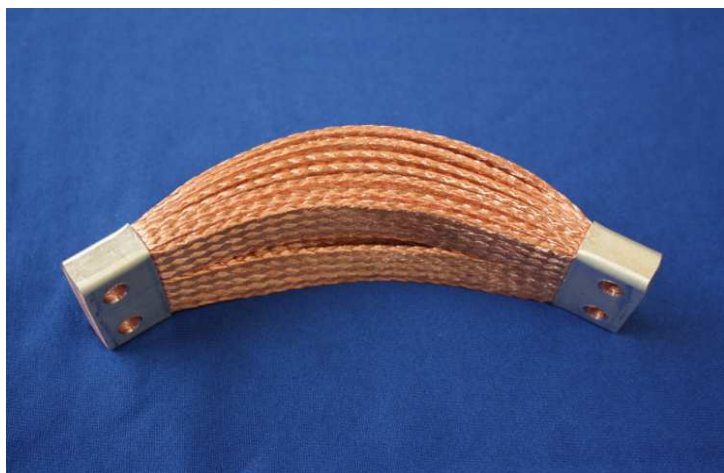




GALLERIA FOTOGRAFICA

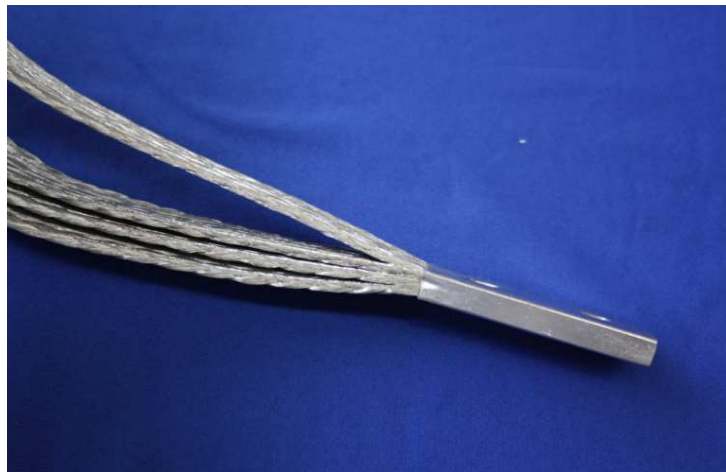
PHOTO GALLERY



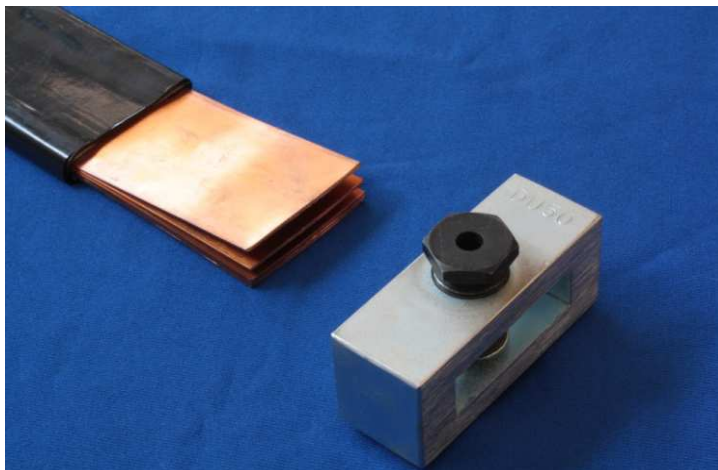
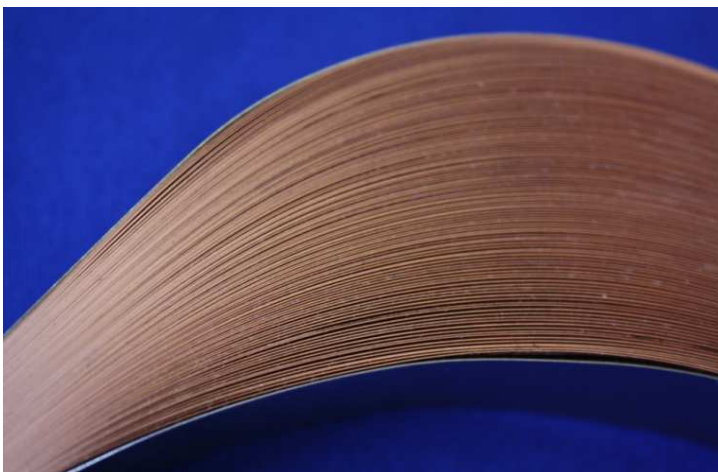


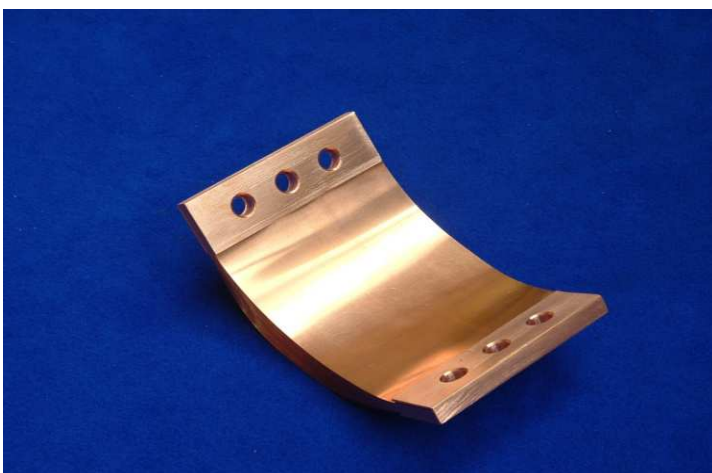
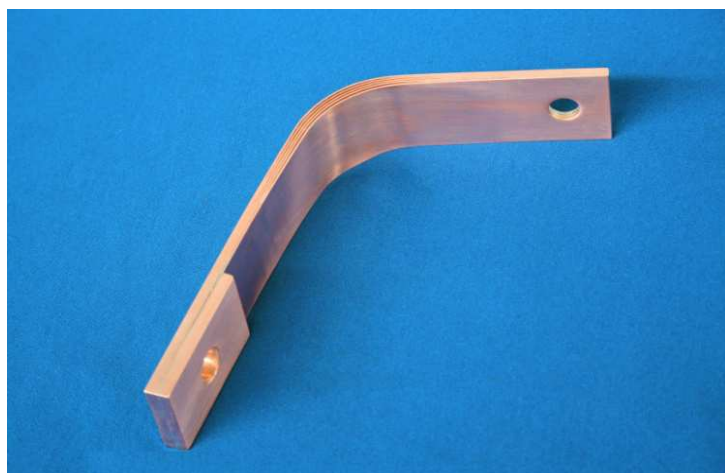
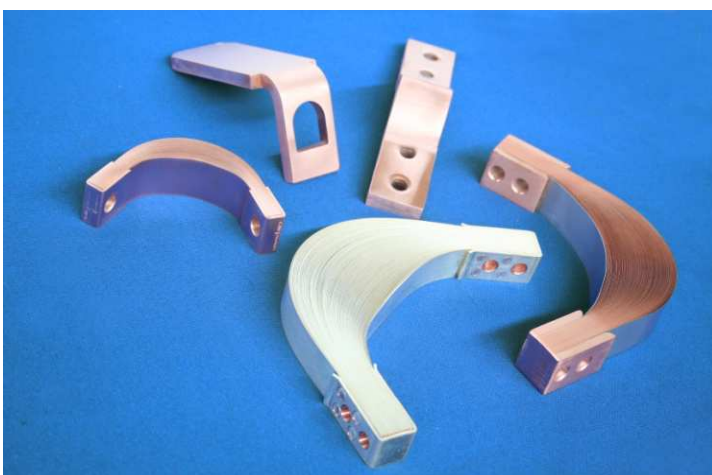
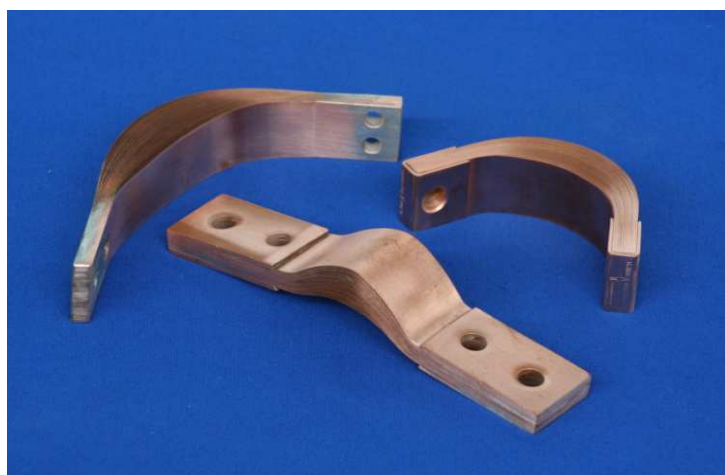
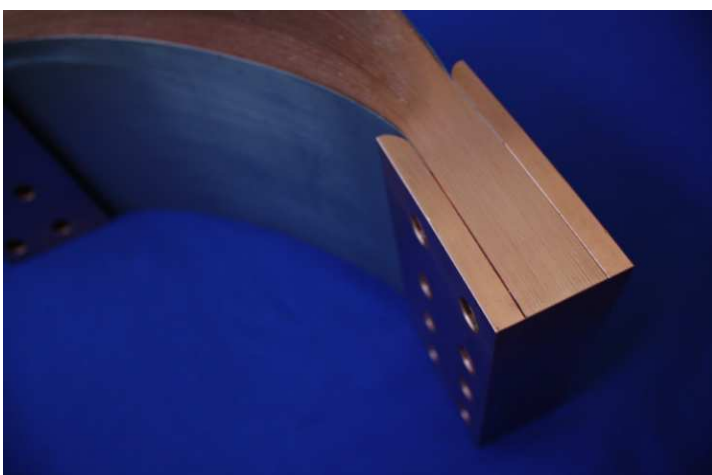
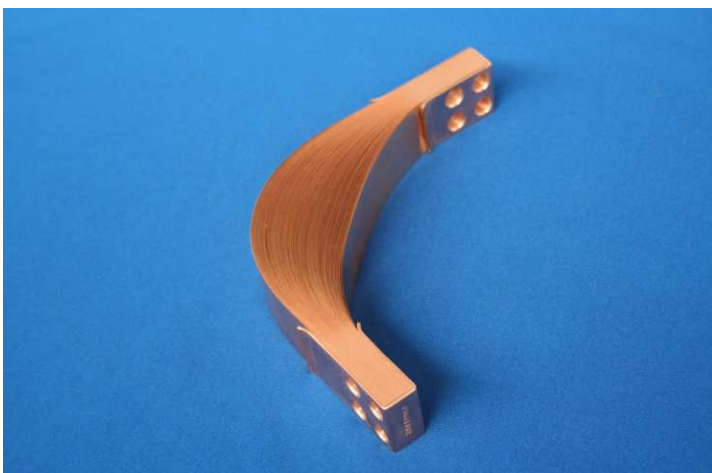
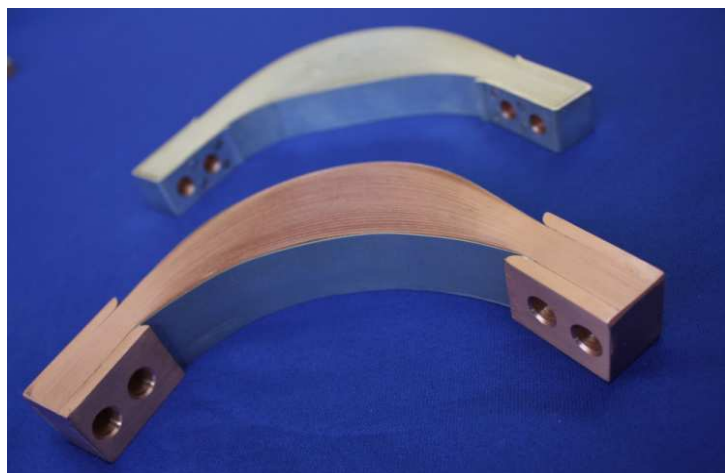
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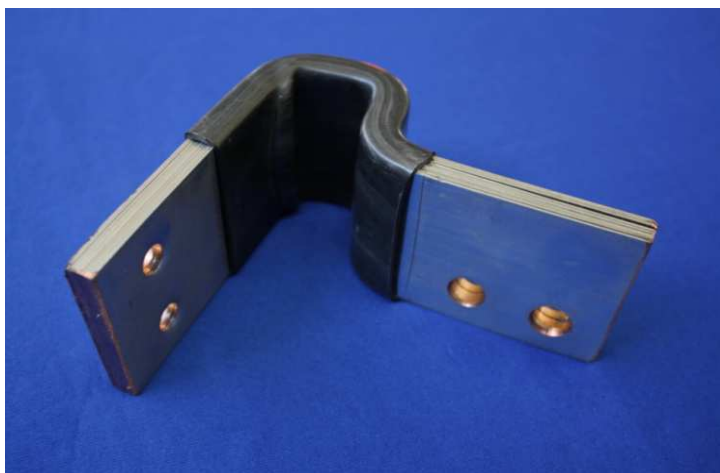


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GALLERIA FOTOGRAFICA PHOTO GALLERY

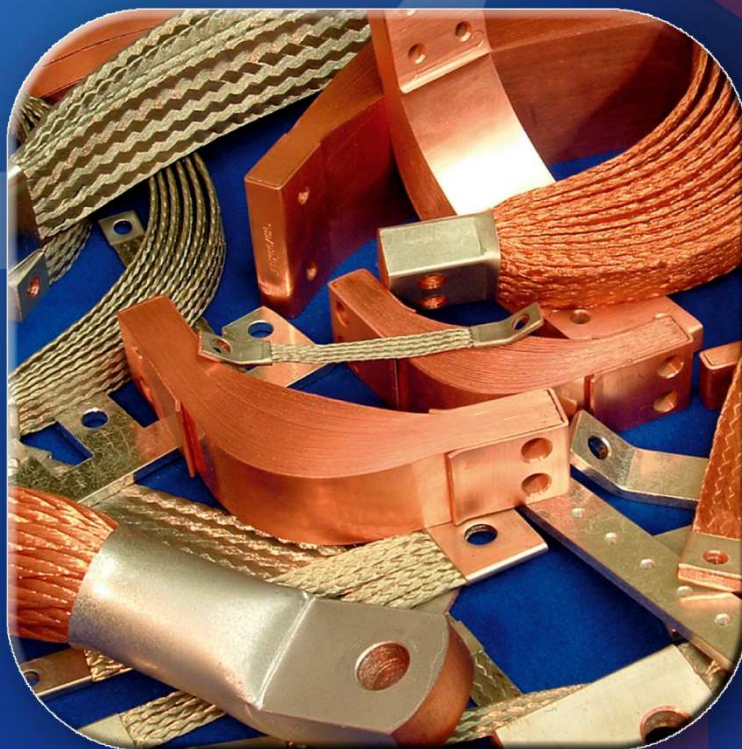


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F.lli BRUNO & C. Snc - Via Piosasco, 96 - 10090 Bruino - Italy
Tel. +39 011 9048348 - Fax +39 011 9085111 e-mail: bruno@conductors.it