

# Rolycab<sup>®</sup> POWERFLEX



[www.rolycab.com](http://www.rolycab.com)

## ABOUT US:

Rolycab Industries, a cables manufacturing company, is an ISO 9001 Certified Company and was established in the year 2006. "Rolycab Industries" is distinguished by ROHS, CE and URS for quality products. Our products are marked with ISI (IS : 694). Our manufacturing unit is located in Umbergaon. We also established a new manufacturing unit of Rigid PVC Duct and Channel at Vasai, in the year 2011.

The company specializes in manufacturing Instrumentation cables, Control cables, Thermocouple extensions & Compensating cables, and all kinds of Single core and Multi core wires. Adding to this range, we introduce our new product, ROLYCAB POWERFLEX.

## ROLYCAB POWERFLEX

ROLYCAB POWERFLEX is formed with multiple layers of thin copper stripes, insulated with high resistance, self extinguishing PVC compound. In this product the holes are punched directly through the laminates and are connected. The advantage of this product is that there is elimination of lugs, which eventually reduces labour and well as process cost also making the installation easier. This product is running successfully in the American as well as the European market.

## FEATURES:

- Rolycab Powerflex consists of copper lamination with high quality durable polymers.
- Internal copper laminates are insulated in such a way that it helps to give flexibility in bending and twisting.
- To get optimum surface connectivity terminals can be created by direct punch on copper lamination.
- It reduces cost of labour and eliminated cost of lugs.
- It is an alternative to large sizes of cables with lugs and solid rigid busbars for a panel board.
- It requires less space for high ampere.
- It is very easy to use as the product is flexible and easy to bend.
- It is also available as per drawing.

## APPLICATION:

- Switch board & Panel
- Motor control center
- Power supply
- Battery storage & supply
- DG set for power generation
- Control AC/DC driven unit
- Transformer
- Electrical machinery
- Power convertor
- Busbar system & link
- UPS System
- Windmill power generator unit
- Combination motor starter, controller
- Railways, coach & power supply system
- Requirement of high ampere with small conductor size

## SELECTION OF ROLYCAB POWERFLEX

Ex : For a current of 400A with  
 $T1 = 40^{\circ}\text{C} - T2 = 90^{\circ}\text{C}$

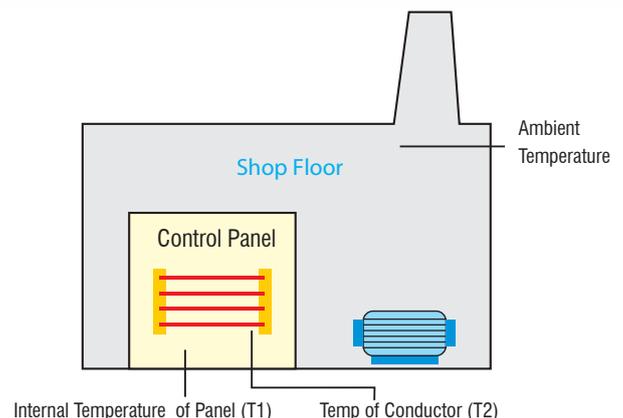
1)  $\Delta T = 90 - 40 = 50^{\circ}\text{K} (T2 - T1)$

2) In  $50^{\circ}\text{C}$  column, find the closest current value to 400A

3) Size :  $5 \times 20 \times 1.00\text{mm}$

OR  $3 \times 24 \times 1.00\text{mm} = 413 \text{ Amp.}$

Select according to size of Terminal.



# ROLUCAB POWERFLEX SIZES & AMPLICITY TABLE

A	Part Code				ΔT(K)					Current Coefficient		Length 2M			
		N	A	B	sqmm	70	60	50	40	30	2	* 3	* Pack qty		
125A	1258605	8	X	6	X	0.5	24	196	182	<b>166</b>	143	128	1.72	2.25	10
	1253908	3	X	9	X	0.8	21.60	158	147	<b>134</b>	120	104	1.72	2.25	10
	1253135	3	X	13	X	0.5	19.50	198	184	<b>167</b>	150	130	1.72	2.25	10
	1252158	2	X	15.5	X	0.8	25.80	252	234	<b>212</b>	191	165	1.72	2.25	10
250A	2504158	4	X	15.5	X	0.8	49.60	380	350	<b>320</b>	286	248	1.72	2.25	10
	2502201	2	X	20	X	1	40	326	300	<b>275</b>	246	214	1.72	2.25	5
	2503201	3	X	20	X	1	60	428	395	<b>360</b>	323	280	1.72	2.25	5
	2502241	2	X	24	X	1	48	450	416	<b>380</b>	340	295	1.72	2.25	5
	2506135	6	X	13	X	0.5	39	300	277	<b>253</b>	226	196	1.72	2.25	5
400A	4005201	5	X	20	X	1	100	498	460	<b>420</b>	376	326	1.72	2.25	5
	4003241	3	X	24	X	1	72	490	453	<b>413</b>	370	320	1.72	2.25	5
	4004241	4	X	24	X	1	96	550	510	<b>465</b>	416	360	1.72	2.25	5
	4002321	2	X	32	X	1	64	480	445	<b>406</b>	363	315	1.72	2.25	5
	4002401	2	X	40	X	1	80	538	500	<b>455</b>	406	352	1.72	2.25	5
	4006158	6	X	15.5	X	0.8	74.4	476	440	<b>402</b>	360	318	1.72	2.25	5
500A	5005241	5	X	24	X	1	120	608	563	<b>514</b>	460	398	1.72	2.25	5
	5004321	4	X	32	X	1	128	648	600	<b>548</b>	490	425	1.72	2.25	5
630A	6308241	8	X	24	X	1	192	802	743	<b>678</b>	606	525	1.72	2.25	5
	6305321	5	X	32	X	1	160	758	702	<b>640</b>	573	496	1.72	2.25	5
	6306321	6	X	32	X	1	192	846	783	<b>715</b>	640	555	1.72	2.25	5
	6305401	5	X	40	X	1	200	900	832	<b>760</b>	680	590	1.72	2.25	5
	6301201	10	X	20	X	1	200	762	706	<b>645</b>	576	500	1.72	2.25	5
800A	8000241	10	X	24	X	1	240	948	877	<b>800</b>	716	592	1.72	2.25	5
	8008321	8	X	32	X	1	256	1018	943	<b>860</b>	770	667	1.72	2.25	5
	8006401	6	X	40	X	1	240	1018	943	<b>860</b>	770	667	1.72	2.25	5
	8005501	5	X	50	X	1	250	1100	1016	<b>930</b>	830	718	1.72	2.25	5
1000A	1008401	8	X	40	X	1	320	1230	1140	<b>1040</b>	930	805	1.72	2.25	3
	1008501	8	X	50	X	1	400	1393	1290	<b>1175</b>	1050	912	1.72	2.25	3
1250A	1251501	10	X	50	X	1	500	1650	1525	<b>1395</b>	1245	1080	1.72	2.25	2

## Note:

This table indicates the temperature rise produced by chosen current in the given section. This calculation does not take into account the heat dissipation from the switchgear.

Any other size on request with Minimum Order Quantity

Available in 2 & 3 meters of length in red copper.

\* When using 2 or 3 ROLUCAB POWERFLEX in parallel use the current coefficient at 50°C (T)

Example: 640 Amps

Amps capacity = 2 bar Parallel 640A x 1.72 = 1100A

= 3 bar Parallel 640A x 2.25 = 1440A

## TECHNICAL CHARACTERISTICS:

- Weight and volume saving within the panel, i.e. cross section area 40% lower than a cable.
- Allows ultimate twisting and bending
- Time saver while assembling or installing
- Easy to use and cost effective
- Aesthetically improves the appearance of the panel.
- Improves safety and reliability of your panel due to the reduced amount of connection
- Guaranteed isolation thickness, including the corner.

## CONDUCTOR :

- Copper strip Electrolytic grade (> 99.9% Cu)
- Surface : uncoated bare
- Tensile : > 200N/mm
- Extensibility : > 20% (minimum)
- Lamination thickness : 0.5mm to 1.00mm

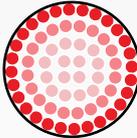
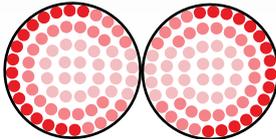
## INSULATION:

- High grade polymer
- Colour : Black
- Thickness : 2mm ± 0.20mm
- Shore Hardness: A 85( I 3)
- ROHS Compliance
- Electrical Strength : > 20 Kv/mm
- Flammability : UL 94 VO
- Tensile Strength: > 9N/mm
- Elongation: > 250%
- Dielectric rigidity: 20 Kv/mm

## FINISHED PRODUCT:

- Operation Temperature: -20°C to +105°C
- Operating Voltage: 1100 volts AC & 1500 volts DC
- Test Voltage: 3000 volts/5 minutes

## SKIN EFFECT

Comparison of the penetration depth between COPPER CABLE & ROLYCAB POWERFLEX		
<b>250 A</b>	 <p>1 X 95 SQMM COPPER CABLES 95 SQMM</p>	 <p>1 X ROLYCAB POWERFLEX 2 X 20 X 1 40 SQMM</p>
<b>630 A</b>	 <p>2 X 150 SQMM COPPER CABLES 300 SQMM</p>	 <p>1 X ROLYCAB POWERFLEX 5 X 32 X 1 160 SQMM</p>

