



DESIGN OF SECTOR SHAPED CONDUCTORS & SCHEDULE OF ROLLERS FOR COMPACTION PROCESS

1. CONDUCTORS FOR LOW VOLTAGE CABLES

1.1. TWO CABLE CORE Angle 180° SECTOR SHAPED PROFILE

Table 01

№	N x CORE (mm ²)	Number of wires	Arrangement of wires	Diameter of wire	Dies (1*)	Horizontal rollers	Vertical rollers	Pairs	PCS of rollers
1.	2 x 50	12	3 + 9	2.47	-	1	1	2	4
2.	2 x 70	12	3 + 9	2.94	-	1	1	2	4
3.	2 x 95	19	1 + 6	2.70	-	-	1	1	6
			+ 12	2.70	-	1	1	2	
				Total:		3	4	7	14

1.2. THREE CABLE CORE Angle 120° SECTOR SHAPED PROFILE

Table 02

№	N x CORE (mm ²)	Number of wires	Arrangement of wires	Diameter of wire	Dies (1*)	Horizontal rollers	Vertical rollers	Pairs	PCS of rollers
1.	3 x 35	7	1 + 6	2.70	-	1	1	2	4
2.	3 x 50	12	3 + 9	2.47	-	1	1	2	4
3.	3 x 70	12	3 + 9	2.94	-	1	1	2	4
4.	3 x 95	19	1 + 6	2.70	-	-	1	1	6
			+ 12	2.70	-	1	1	2	
5.	3 x 120	27	3 + 9	2.55	-	-	1	1	6
			+ 15	2.55	-	1	1	2	
6.	3 x 150	36	1 + 6	2.46	-	-	1	1	10
			+ 12	2.46	-	1	1	2	
			+ 17	2.46	-	1	1	2	
7.	3 x 185	36	1 + 6	2.75	-	-	1	1	12
			+ 12	2.75	-	1	1	2	
			+ 17	2.75	-	1	2	3	
8.	3 x 240	47	3 + 9	2.73	-	-	1	1	12
			+ 15	2.73	-	1	1	2	
			+ 20	2.73	-	1	2	3	
9.	3 x 300	47	3 + 9	3.05	-	-	1	1	12
			+ 15	3.05	-	1	1	2	
			+ 20	3.05	-	1	2	3	
10.	3 x 400	58	1 + 6	3.20	-	-	1	1	14
			+ 12	3.20	-	-	1	1	
			+ 17	3.20	-	1	1	2	
			+ 22	3.20	-	1	2	3	
				Total:		15	27	42	84



1.3. THREE CABLE CORE Angle : 101° SECTOR SHAPED PROFILE

Table 03

№	N X CORE (mm ²)	Number of wires	Arrangement of wires	Diameter of wire	Dies (1*)	Horizontal rollers	Vertical rollers	Pairs	PCS of rollers
1.	3 x 50	12	3 + 9	2.47	-	1	1	2	4
2.	3 x 70	12	3 + 9	2.94	-	1	1	2	4
3.	3 x 95	19	1 + 6	2.70	-	-	1	1	6
			+ 12	2.70	-	1	1	2	
4.	3 x 120	27	3 + 9	2.55	-	-	1	1	6
			+ 15	2.55	-	1	1	2	
5.	3 x 150	36	1 + 6	2.46	-	-	1	1	12
			+ 12	2.46	-	1	1	2	
			+ 17	2.46	-	1	2	3	
6.	3 x 185	36	1 + 6	2.75	-	-	1	1	12
			+ 12	2.75	-	1	1	2	
			+ 17	2.75	-	1	2	3	
7.	3 x 240	48	3 + 9	2.70	-	-	1	1	12
			+ 15	2.70	-	1	1	2	
			+ 21	2.70	-	1	2	3	
8.	3 x 300	48	3 + 9	3.05	-	-	1	1	12
			+ 15	3.05	-	1	1	2	
			+ 21	3.05	-	1	2	3	
9.	3 x 400	58	1 + 6	3.20	-	-	1	1	14
			+ 12	3.05	-	-	1	1	
			+ 17	3.05	-	1	1	2	
			+ 22	3.05	-	1	2	3	
				Total:		14	27	41	82

1.4. ONE HALF CABLE CORE Angle 57° SECTOR SHAPED PROFILE

Table 04

№	N X CORE (mm ²)	Number of wires	Arrangement of wires	Diameter of wire	Dies (1*)	Horizontal rollers	Vertical rollers	Pairs	PCS of rollers
2.	1 x 50	12	3 + 9	2.47	-	1	1	2	4
3.	1 x 70	12	3 + 9	2.94	-	1	1	2	4
4.	1 x 95	19	1 + 6	2.70	-	-	1	1	6
			+ 12	2.70	-	1	1	2	
5.	1 x 120	27	3 + 9	2.55	-	-	1	1	6
			+ 15	2.55	-	1	1	2	
6.	1 x 150	36	1 + 6	2.46	-	-	1	1	12
			+ 12	2.46	-	1	1	2	
			+ 17	2.46	-	1	2	3	
7.	1 x 185	36	1 + 6	2.75	-	-	1	1	12
			+ 12	2.75	-	1	1	2	
			+ 17	2.75	-	1	2	3	
				Total:		8	14	22	44



1.5. **FOUR CABLE CORE** **Angle 90° SECTOR SHAPED PROFILE**

Table 05

Nº	N X CORE (mm ²)	Number of wires	Arrangement of wires	Diameter of wire	Dies (1*)	Horizontal rollers	Vertical rollers	Pairs	PCS of rollers
1.	4 x 35	7	1 + 6	2.70	-	1	1	2	4
2.	4 x 50	12	3 + 9	2.46	-	1	1	2	4
3.	4 x 70	12	3 + 9	2.94	-	1	1	2	4
4.	4 x 95	19	1 + 6	2.70	-	-	1	1	6
			+ 12	2.70	-	1	1	2	
5.	4 x 120	27	3 + 9	2.55	-	-	1	1	6
			+ 15	2.55	-	1	1	2	
6.	4 x 150	36	1 + 6	2.46	-	-	1	1	12
			+ 12	2.46	-	1	1	2	
			+ 17	2.46	-	1	2	3	
7.	4 x 185	36	1 + 6	2.75	-	-	1	1	12
			+ 12	2.75	-	1	1	2	
			+ 17	2.75	-	1	2	3	
8.	4 x 240	47	3 + 9	2.73	-	-	1	1	12
			+ 15	2.73	-	1	1	2	
			+ 20	2.73	-	1	2	3	
9.	4 x 300	47	3 + 9	3.05	-	-	1	1	12
			+ 15	3.05	-	1	1	2	
			+ 20	3.05	-	1	2	3	
10.	4 x 400	58	1 + 6	3.20	-	-	1	1	14
			+ 12	3.20	-	-	1	1	
			+ 17	3.20	-	1	1	2	
			+ 22	3.20	-	1	2	3	
11.	4 x 500	58	1 + 6	3.55	-	-	1	1	14
			+ 12	3.55	-	-	1	1	
			+ 17	3.55	-	1	1	2	
			+ 22	3.55	-	1	2	3	
12.	4 x 630	58	1 + 6	4.00	-	-	1	1	14
			+ 12	4.00	-	-	1	1	
			+ 17	4.00	-	1	1	2	
			+ 22	4.00	-	1	2	3	
				Total		19	38	57	114



2.0. CONDUCTORS FOR EHV MILLIKEN CABLES

2.1. FOUR CABLE CORE Angle 90° SECTOR SHAPED PROFILE

Table 08

№	N X CORE (mm ²)	Number of wires	Arrangement of wires	Diameter of wire	Dies (1*)	Horizontal rollers	Vertical rollers	Pairs	PCS of rollers
1.	4 x 200	48	3 + 9	2.47		-	1	1	12
			+15	2.47		1	1	2	
			+21	2.47		1	2	3	
2.	4 X 250	48	3 + 9	2.76		-	1	1	12
			+15	2.76		1	1	2	
			+21	2.76		1	2	3	
3.	4 X 300	48	3 + 9	3.00		-	1	1	12
			+15	3.00		1	1	2	
			+21	3.00		1	2	3	
4.	4 X 350	48	3 + 9	3.27		-	1	1	12
			+15	3.27		1	1	2	
			+21	3.27		1	2	3	
5.	4 X 400	58	1+ 6	3.20		-	1	1	14
			+12	3.20		-	1	1	
			+17	3.20		1	1	2	
			+22	3.20		1	2	3	
6.	4 X 450	58	1+ 6	3.37		-	1	1	14
			+12	3.37		-	1	1	
			+17	3.37		1	1	2	
			+22	3.37		1	2	3	
7.	4 X 500	58	1+ 6	3.55		-	1	1	14
			+12	3.55		-	1	1	
			+17	3.55		1	1	2	
			+22	3.55		1	2	3	
8.	4 X 550	58	1+ 6	3.73		-	1	1	14
			+12	3.73		-	1	1	
			+17	3.73		1	1	2	
			+22	3.73		1	2	3	
9.	4 X 600	58	1+ 6	3.90		-	1	1	14
			+12	3.90		-	1	1	
			+17	3.90		1	1	2	
			+22	3.90		1	2	3	
10.	4 X 625	58	1+ 6	3.97		-	1	1	14
			+12	3.97			1	1	
			+17	3.97		1	1	2	
			+22	3.97		1	2	3	
				Total:		20	46	66	132



2.2. FIVE CABLE CORE Angle 72° SECTOR SHAPED PROFILE

Table 09

№	N X CORE (mm ²)	Number of wires	Arrangement of wires	Diameter of wire	Dies (1*)	Horizontal rollers	Vertical rollers	Pairs	PCS of rollers
1.	5 x 160	36	1 + 6	2.55		-	1	1	12
			+ 12	2.55		1	1	2	
			+ 17	2.55		1	2	3	
2.	5 X 200	36	1 + 6	2.85		-	1	1	12
			+ 12	2.85		1	1	2	
			+ 17	2.85		1	2	3	
3.	5 x 240	48	3 + 9	2.70		-	1	1	12
			+ 15	2.70		1	1	2	
			+ 21	2.70		1	2	3	
4.	5 X 280	48	3 + 9	2.92		-	1	1	12
			+ 15	2.92		1	1	2	
			+ 21	2.92		1	2	3	
5.	5 X 320	48	3 + 9	3.12		-	1	1	12
			+ 15	3.12		1	1	2	
			+ 21	3.12		1	2	3	
6.	5 X 360	48	3 + 9	3.31		-	1	1	12
			+ 15	3.31		1	1	2	
			+ 21	3.31		1	2	3	
7.	5 X 400	58	1 + 6	3.20		-	1	1	16
			+ 12	3.20		1	1	2	
			+ 17	3.20		1	1	2	
			+ 22	3.20		1	2	3	
8.	5 X 440	58	1 + 6	3.33		-	1	1	16
			+ 12	3.33		1	1	2	
			+ 17	3.33		1	1	2	
			+ 22	3.33		1	2	3	
9.	5 X 480	58	1 + 6	3.48		-	1	1	16
			+ 12	3.48		1	1	2	
			+ 17	3.48		1	1	2	
			+ 22	3.48		1	2	3	
10.	5 X 500	58	1 + 6	3.55		-	1	1	16
			+ 12	3.55		1	1	2	
			+ 17	3.55		1	1	2	
			+ 22	3.55		1	2	3	
11.	5 X 560	58	1 + 6	3.76		-	1	1	16
			+ 12	3.76		1	1	2	
			+ 17	3.76		1	1	2	
			+ 22	3.76		1	2	3	
12.	5 X 600	58	1 + 6	3.90		-	1	1	16
			+ 12	3.90		1	1	2	
			+ 17	3.90		1	1	2	
			+ 22	3.90		1	2	3	
				Total:		30	54	84	168



2.3. SIX CABLE CORE Angle 60° SECTOR SHAPED PROFILE

Table 10

№	N X CORE (mm ²)	Number of wires	Arrangement of wires	Diameter of wire	Dies (1*)	Horizontal Rollers	Vertical Rollers	Pairs	PCS of rollers
1.	6 x 134	36	1 + 6	2.34		-	1	1	12
			+ 12	2.34		1	1	2	
			+ 17	2.34		1	2	3	
2.	6 X 167	36	1 + 6	2.61		-	1	1	12
			+ 12	2.61		1	1	2	
			+ 17	2.61		1	2	3	
3.	6 X 200	48	1 + 6	2.47		-	1	1	12
			+ 12	2.47		1	1	2	
			+ 17	2.47		1	2	3	
4.	6 x 233	48	1 + 6	2.70		-	1	1	12
			+ 12	2.70		1	1	2	
			+ 17	2.70		1	2	3	
5.	6 x 267	48	1 + 6	2.86		-	1	1	12
			+ 12	2.86		1	1	2	
			+ 17	2.86		1	2	3	
6.	6 x 300	48	1 + 6	3.05		-	1	1	12
			+ 12	3.05		1	1	2	
			+ 17	3.05		1	2	3	
7.	6 X 333	48	1 + 6	3.20		-	1	1	12
			+ 12	3.20		1	1	2	
			+ 17	3.20		1	2	3	
8.	6 x 367	48	1 + 6	3.35		-	1	1	12
			+ 12	3.35		1	1	2	
			+ 17	3.35		1	2	3	
9.	6 X 400	58	1+ 6	3.20		-	1	1	16
			+ 12	3.20		1	1	2	
			+ 17	3.20		1	1	2	
			+ 22	3.20		1	2	3	
10.	6 X 417	58	1+ 6	3.25		-	1	1	16
			+ 12	3.25		1	1	2	
			+ 17	3.25		1	1	2	
			+ 22	3.25		1	2	3	
11.	6 x 500	58	1+ 6	3.55		-	1	1	16
			+ 12	3.55		1	1	2	
			+ 17	3.55		1	1	2	
			+ 22	3.55		1	2	3	
12.	6 x 584	58	1+ 6	3.85		-	1	1	16
			+ 12	3.85		1	1	2	
			+ 17	3.85		1	1	2	
			+ 22	3.85		1	2	3	
				Total:		28	52	80	160



NOTICE:

- 1*). The application of the dies are not necessary. We manufacture the dies with one or two parts on special Customers request.
2. All tools are made of hardened steel for long-life use.
3. The design and arrangement of the wires is in line with long-term practical experience producer in compaction of conductors.
4. We can to produce rollers also in accordance with special Customers design of conductors.

The net price of rollers it can easily be calculated for each type of conductor as follows:

1. Select the type of conductor from the previous tables and in the last column you can see how much rollers need for compacting process for selected conductor.
2. Select then type of roller that fits to your compacting heads.
3. Multiply the number of rollers with the price of selected roller and you get the total cost of the rollers for selected type of conductor.
4. If the dimensions of your roller is different from the proposed variants, then you can choose the roller that is most similar to yours and so again you get the approximate price of rollers for desired type of conductor.
5. Of course, if you are using rollers other different sizes we can produce rollers according to your drawings and with our working profiles.
6. schedule of compacting heads should be in accordance with the schemes given in "DESIGN OF ROUND CONDUCTORS".

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