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1st July 2010

To Members of IEEMA Cable Division, All SEBs, Utilities & Listed purchasing organizations

Sub: Round Wire 'W' Steel Factors for various types of Cables

IEEMA Cable division members have decided to evolve new Round Wire steel factors for LT & HT cables which are missing in the existing tables of factors since some of the users were procuring such types of cables and demanding these factors.

After collecting and compiling inputs from leading manufacturers and receiving approval from IEEMA Cable division; we are publishing the following Round Wire 'W' steel factors (FeF) and accordingly enclosing following Additional tables of factors for your perusal and records.

- ® P3 - PVC insulated 1.1 KV Power Cables with Copper/ Aluminium Conductor
- ® L3 – XLPE insulated 1.1 KV Power Cables with Copper/ Aluminium Conductor
- ® P6 – PVC Insulated Control Cables with Copper Conductor
- ® L6 – XLPE Insulated Control Cables with Copper Conductor

We have also added factors for XLPE insulated 3.3 to 33 KV Power Cables with Copper/ Aluminium Conductor of 25 sq. mm. cross sectional area and only for 33KV (E) power cable of 50 sq. mm. cross sectional area. Accordingly, the updated Table H3 is also enclosed for your perusal and records.


Executive Officer

Encl: as above

TABLE P3 (Additional)

VARIATION FACTOR FOR ROUND WIRE 'W' STEEL (FeF)
PVC INSULATED 1.1 KV POWER CABLES WITH COPPER/ALUMINIUM CONDUCTOR

Nominal Cross Sectional Area (in sq. mm)	2 Core	3 Core	3.5 Core	4 Core
1.5	0.247	0.259		0.288
2.5	0.273	0.301		0.329
4	0.305	0.335		0.363
6	0.348	0.363		0.407
10	0.392	0.407		0.533
16	0.439	0.523	0.014	0.573
25	0.526	0.625	0.664	0.685
35	0.591	0.685	0.729	0.761
50	0.661	0.790	0.864	1.108
70	0.745	1.122	1.200	1.256
95	1.085	1.286	1.376	1.443
120	1.147	1.386	1.479	1.562
150	1.267	1.526	1.684	2.173
185	1.403	2.090	2.315	2.421
240	1.994	2.397	2.641	2.722
300	2.180	2.642	3.670	3.842
400	2.987	3.728	4.126	4.292
500	3.517	4.226	5.958	6.301
630	4.774	6.018	6.737	7.141

TABLE L3 (Additional)

VARIATION FACTOR FOR ROUND WIRE 'W' STEEL (FeF)
XLPE INSULATED 1.1 KV POWER CABLES WITH COPPER / ALUMINIUM CONDUCTOR

Nominal Cross Sectional Area (in sq. mm)	2 Core	3 Core	3.5 Core	4 Core
4	0.305	0.335		0.363
6	0.348	0.363		0.407
10	0.392	0.407		0.434
16	0.405	0.503	0.014	0.536
25	0.492	0.582	0.618	0.644
35	0.541	0.649	0.684	0.717
50	0.616	0.740	0.782	0.818
70	0.708	1.069	1.161	1.212
95	1.011	1.202	1.299	1.348
120	1.091	1.306	1.407	1.483
150	1.206	1.470	1.649	2.084
185	1.341	2.017	2.194	2.328
240	1.882	2.280	2.483	2.619
300	2.059	2.542	2.958	3.713
400	2.352	3.559	3.926	4.120
500	3.347	4.058	5.278	6.132
630	3.735	5.744	6.672	6.876

TABLE P6 (Additional)

VARIATION FACTOR FOR ROUND WIRE 'W' STEEL (FeF)
PVC INSULATED CONTROL CABLES WITH COPPER CONDUCTOR

No. of Cores	Core size 1.5 sq mm	Core size 2.5 sq mm
2	0.243	0.277
3	0.257	0.289
4	0.277	0.314
5	0.303	0.342
6	0.329	0.379
7	0.329	0.379
8	0.341	0.456
9	0.383	0.508
10	0.408	0.535
12	0.510	0.572
14	0.546	0.625
16	0.581	0.660
19	0.608	0.696
24	0.714	0.819
25	0.679	0.798
27	0.732	0.837
28	0.696	0.815
30	0.758	0.881
33	0.747	0.883
37	0.820	1.217
44	0.926	1.355
48	1.122	1.308
50	1.122	1.308
52	1.149	1.361
56	1.202	1.388
61	1.299	1.520

TABLE L6 (Additional)

VARIATION FACTOR FOR ROUND WIRE 'W' STEEL (FeF)
XLPE INSULATED CONTROL CABLES WITH COPPER CONDUCTOR

No. of Cores	Core size 1.5 sq mm	Core size 2.5 sq mm
2	0.243	0.277
3	0.257	0.289
4	0.277	0.314
5	0.303	0.342
6	0.329	0.379
7	0.329	0.379
8	0.408	0.404
9	0.411	0.430
10	0.423	0.557
12	0.434	0.563
14	0.458	0.595
16	0.557	0.621
19	0.581	0.659
24	0.682	0.779
27	0.697	0.779
30	0.715	0.812
33	0.758	0.856
37	0.812	1.016
44	0.864	1.238
48	0.849	1.222
52	0.904	1.298
56	0.900	1.275
61	1.206	1.374

TABLE H3

VARIATION FACTOR FOR STEEL (FeF)
 XLPE INSULATED 3.3 TO 33 KV POWER CABLES WITH COPPER / ALUMINIUM CONDUCTOR

Nominal Cross Sectional Area Sq. mm.	3.3 KV	6.6 KV (E)	11 KV (E) / 6.6 KV (UE)	11 KV (UE)	22 KV (E)	33 KV (E)
25	0.551	0.604	0.656	0.814		
35	0.645	0.645	0.731	0.879	0.937	-
50	0.675	0.703	0.761	0.937	0.966	1.181
70	0.761	0.761	0.849	0.996	1.055	1.289
95	0.820	0.849	0.907	1.083	1.113	1.348
120	0.879	0.907	0.966	1.142	1.172	1.406
150	0.966	0.966	1.055	1.201	1.259	1.494
185	1.025	1.055	1.113	1.259	1.318	1.553
240	1.142	1.142	1.231	1.377	1.406	1.641
300	1.231	1.259	1.318	1.465	1.524	1.758
400	1.348	1.406	1.435	1.582	1.641	1.876

Note: Highlighted Factors have been added with effect from 1st July 2010