Tender No.: 77/21/6062/RRC **Date:12.08.2021**

Price Variation Formulae for cables -Annexure-I

1. Prices shall be variable as per price variation formulae given below (basis IEEMA). The price variation shall be limited to + 20% of total ex-works price actually supplied (cable size wise) and -ve price variation shall be unlimited. Rates for working out price variation shall be as per rates published by IEEMA for the factors given below:-

Sl. No.	PV FORMULAE	Table Ref.	Remarks
1	P=Po + AlF(Al-Alo) + CCFAI(PVCc-PVCco) + FeF(Fe-Feo)	As per Cl. A of circular	1.1 KV Power cables PVC insulated, Al. conductor (Unarmoured)
2	P=Po + CuF(Cu-Cuo) + CCFCu(PVCc-PVCco) + FeF(Fe-Feo) + AlF(Al-Alo))	As per Cl. B of circular	1.1 KV Power cables PVC insulated, Cu. Conductor (Armoured)
3	P=Po + CuF(Cu-Cuo) + CCFCu(PVCc-PVCco) + FeF(Fe-Feo))	As per Cl. C of circular	1.1 KV Control cables PVC insulated, Cu. Conductor (Unarmoured)
4	P=Po + AlF (Al-Alo) + XLFAl (Cc-Cco) + CCFAl (PVCc-PVCco) + FeF(Fe-Feo)	As per Cl. D of circular	1.1 KV Power cables XLPE insulated, Al. conductor (Unarmoured)
5	P=Po + CuF (Cu-Cuo) + XLFCu (Cc-Cco) + CCFCu (PVCc-PVCco) + FeF(Fe-Feo) + AlF(Al-Alo)	As per Cl. E of circular	1.1 KV Power cables XLPE insulated, Cu. Conductor (Armoured)
6	P=Po + CuF (Cu-Cuo) + XLFCu (Cc-Cco) + CCFCu (PVCc-PVCco) + FeF(Fe-Feo)	As per Cl. F of circular	1.1 KV Control cables XLPE insulated, Cu. Conductor (Unarmoured)
7	P=Po + AlF (Al-Alo) + XLFAl (Cc-Cco) + CCFAl (PVCc-PVCco) + FeF(Fe-Feo)	As per Cl. G of circular	3.3 KV to 33 KV Power cables XLPE insulated, Al. conductor (Unarmoured)
8	P=Po + CuF (Cu-Cuo) + XLFCu (Cc-Cco) + CCFCu (PVCc-PVCco) + FeF(Fe-Feo) + AlF(Al-Alo)	As per Cl. H of circular	3.3 KV to 33 KV Power cables XLPE insulated, Cu. conductor (Armoured)
9	P+P0 + CuF (Cu-Cuo) + FeF(Fe-Feo)	As per Attachment	PVC insulated Screened Control cable/ Instrumentation cable

Note:
i) Above formula for Sl No.9 is as per circular no. IEEMA *(PVC)/Instrumentation Cable/2014* dtd *01/07/2014*

2. Base date for prices:

Initial Price (As per IEEMA) for-Alo, PVCco, Cuo, Cco & Feo:
Base Date shall be: - 1st working day of the previous month to the date of issue of tender enquiry.
Final Price (as per IEEMA) for- AI, PVCc, Cu, Cc & Fe:
The first working day of month, one month prior to the date on which cable is notified as being ready for inspection i.e TPIA inspection call raise date on web portal.
3. Variation factor value for AlF, CuF, CCFAl, CCFCu, XLFAl, XLFCu, FeF & FeW, as applicable shall be as per Technical Specification.
4. PVC shall be payable within contractual delivery period (including any extension thereto).
5. Beyond the contractual delivery, PVC will be limited to the actuals or as applicable on contractual delivery schedule, whichever is less.

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Cir. No: 89/DIV/Cable/05 11 July 2014

To all members of Cable division of IEEMA
SEBs, Utilities and other listed purchasing organizations

Sub: Price Variation Clause for 'Instrumentation Cables'

Members of IEEMA Cable division especially Instrumentation Cable manufacturers had decided to evolve a new PV clause for 'Instrumentation Cables'. Members may recall IEEMA has circulated draft PV clause for 'Instrumentation Cables' after collection & compilation of all the necessary data from manufactures vide circular no. 40/DIV/Cable/05 dated 21st March 2014.

These PV formulae are derived on weight basis, the weight of raw materials like Copper and Steel is considered for following different type of Instrumentation Cables:

1. **Pair Instrumentation Over all Screen Cables**
2. **Pair Instrumentation Individual and Over all Screen Cables**
3. **Triad Instrumentation Over all Screen Cables**
4. **Triad Instrumentation Individual and Over all Screen Cables**

The weight factors of Copper & Steel for all the above four types of Cables are also enclosed along with draft PV clause.

We are making this PV clause operational with effect from 1st July 2014. We request and recommend to incorporate this new PV clause in all your tenders/contracts of purchase/supply of Instrumentation Cables.

Deputy Director General

Encl: as above

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IEEMA (PVC)/Instrumentation Cable/2014 **Effective from: 1st July 2014**

Material Price Variation Clause For Instrumentation Cables

The Price quoted/confirmed is based on the input cost of raw materials/components as on the date of quotation, and the same is deemed to be related to the prices of raw materials as specified in the price variation clause given below. In case of any variation in these prices, the price payable shall be subject to adjustment up or down in accordance with the formulae provided in this document.

Terms used in price variation formulae:

P Price payable as adjusted in accordance with above appropriate formula **(in Rs/Km)**

Po Price quoted/confirmed **(in Rs/Km)**

COPPER

CuF Variation factor for copper

Cu Price of CC copper rods. This price is as applicable on first working day of the month, one month prior to the date of delivery.

Cu_o Price of CC copper rods. This price is as applicable on first working day of the month, one month prior to the date of tendering.

STEEL

FeF Variation factor for steel

Fe Price of Steel Strips/steel wire. This price is as applicable on the first working day of the month, one month prior to the date of delivery.

Fe_o Price of steel strips/steel wire. This price is as applicable on first working day of the month, one month prior to the date of tendering.

The above prices and indices are as published by IEEMA vide Circular reference IEEMA(PVC)/CABLE/--/-- prevailing as on 1st working day of the month i.e. one month prior to the date of tendering.

The date of delivery is the date on which the cable is notified as being ready for inspection/dispatch (in the absence of such notification, the date of manufacturer's dispatch note is to be considered as the date of delivery) or the contracted delivery date (including any agreed extension thereto), whichever is earlier.

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IEEMA (PVC)/Instrumentation Cable/2014 **Effective from: 1st July 2014**

Notes

(a) All prices of raw materials are exclusive of modvatable excise/CV duty amount and exclusive of any other central, state or local taxes, octroi, etc.

(b) All Prices are as on first working day of the month.

(c) The details of prices are as under:

1. Price of CC copper rods (in Rs/MT) is ex-works price as quoted by the primary producer.

2. Price of galvanized steel strip / steel wire (in Rs/MT) is ex-works price as quoted by the manufacturer for Round steel Wire and Flat steel strip (the relevant price of steel strip or steel wire is to be selected depending upon the type of armouring of the cable).

Price variation formula for 'Instrumentaion Cables'

P = Po + CuF (Cu – Cuo) + FeF (Fe – Feo)

1. **For Pair Instrumentation Over all Screen Cables**

Tables References:

Cu POS Copper Factor
Fe POS Steel Factor

2. **For Pair Instrumentation Individual and Over all Screen Cables**

Tables References:

Cu PIS Copper Factor
Fe PIS Steel Factor

3. **For Triad Instrumentation Over all Screen Cables**

Tables References:

Cu TOS Copper Factor
Fe TOS Steel Factor

4. **For Triad Instrumentation Individual & Overall Screen Cables**

Tables References:

Cu TIS Copper Factor
Fe TIS Steel Factor

Deputy Director General

Copper Factors for Instrumentation Cables - CuF

Cu POS

Pair Instrumentation Over all Screen Cables					
No. of Pairs Cable size in sq.mm	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.0142	0.0185	0.0233	0.0326	0.0500
2	0.0258	0.0345	0.0440	0.0625	0.0978
3	0.0353	0.0484	0.0626	0.0904	0.1433
4	0.0448	0.0623	0.0811	0.1183	0.1888
5	0.0578	0.0800	0.1022	0.1467	0.2356
6	0.0662	0.0926	0.1210	0.1768	0.2829
7	0.0756	0.1067	0.1378	0.2000	0.3245
8	0.0852	0.1204	0.1582	0.2327	0.3741
9	0.0933	0.1334	0.1734	0.2534	0.4134
10	0.1046	0.1485	0.1959	0.2893	0.4665
11	0.1111	0.1600	0.2089	0.3067	0.5023
12	0.1236	0.1764	0.2333	0.3452	0.5580
13	0.1289	0.1867	0.2445	0.3600	0.5912
14	0.1378	0.2000	0.2623	0.3867	0.6356
15	0.1467	0.2134	0.2800	0.4134	0.6801
16	0.1618	0.2322	0.3080	0.4573	0.7409
17	0.1645	0.2400	0.3156	0.4667	0.7690
18	0.1734	0.2534	0.3334	0.4934	0.8134
19	0.1822	0.2667	0.3512	0.5201	0.8579
20	0.1911	0.2800	0.3689	0.5467	0.9023
21	0.2000	0.2934	0.3867	0.5734	0.9468
22	0.2089	0.3067	0.4045	0.6001	0.9912
23	0.2178	0.3200	0.4223	0.6267	1.0357
24	0.2381	0.3437	0.4575	0.6813	1.1068
25	0.2356	0.3467	0.4578	0.6801	1.1246
26	0.2445	0.3600	0.4756	0.7068	1.1690
27	0.2534	0.3734	0.4934	0.7334	1.2135
28	0.2623	0.3867	0.5112	0.7601	1.2579
29	0.2711	0.4001	0.5290	0.7868	1.3024
30	0.2800	0.4134	0.5467	0.8134	1.3468
31	0.2889	0.4267	0.5645	0.8401	1.3913
32	0.2978	0.4401	0.5823	0.8668	1.4357
33	0.3067	0.4534	0.6001	0.8934	1.4802
34	0.3156	0.4667	0.6179	0.9201	1.5246
35	0.3245	0.4801	0.6356	0.9468	1.5691
36	0.3334	0.4934	0.6534	0.9735	1.6135
37	0.3423	0.5067	0.6712	1.0001	1.6580
38	0.3512	0.5201	0.6890	1.0268	1.7024
39	0.3600	0.5334	0.7068	1.0535	1.7469
40	0.3689	0.5467	0.7245	1.0801	1.7913
41	0.3778	0.5601	0.7423	1.1068	1.8358
42	0.3867	0.5734	0.7601	1.1335	1.8802
43	0.3956	0.5867	0.7779	1.1601	1.9247
44	0.4045	0.6001	0.7957	1.1868	1.9691
45	0.4134	0.6134	0.8134	1.2135	2.0136
46	0.4223	0.6267	0.8312	1.2402	2.0580
47	0.4312	0.6401	0.8490	1.2668	2.1025
48	0.4710	0.6759	0.9010	1.3410	2.2009

Copper Factors for Instrumentation Cables - CuF

Cu PIS

Pair Instrumentation Individual and Over all Screen Cables					
No. of Pairs Cable size in sq.mm	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.0133	0.0178	0.0222	0.0311	0.0489
2	0.0349	0.0437	0.0531	0.0717	0.1069
3	0.0490	0.0621	0.0763	0.1041	0.1570
4	0.0630	0.0806	0.0994	0.1389	0.2071
5	0.0800	0.1022	0.1245	0.1689	0.2578
6	0.0937	0.1200	0.1484	0.2042	0.3103
7	0.1067	0.1378	0.1689	0.2311	0.3556
8	0.1218	0.1569	0.1948	0.2692	0.4107
9	0.1334	0.1734	0.2134	0.2934	0.4534
10	0.1503	0.1943	0.2417	0.3349	0.5122
11	0.1600	0.2089	0.2578	0.3556	0.5512
12	0.1785	0.2313	0.2882	0.4001	0.6128
13	0.1867	0.2445	0.3023	0.4178	0.6490
14	0.2000	0.2623	0.3245	0.4489	0.6979
15	0.2134	0.2800	0.3467	0.4801	0.7468
16	0.2350	0.3053	0.3812	0.5305	0.8141
17	0.2400	0.3156	0.3912	0.5423	0.8446
18	0.2534	0.3334	0.4134	0.5734	0.8934
19	0.2667	0.3512	0.4356	0.6045	0.9423
20	0.2800	0.3689	0.4578	0.6356	0.9912
21	0.2934	0.3867	0.4801	0.6668	1.0401
22	0.3067	0.4045	0.5023	0.6979	1.0890
23	0.3200	0.4223	0.5245	0.7290	1.1379
24	0.3479	0.4535	0.5673	0.7911	1.2165
25	0.3467	0.4578	0.5690	0.7912	1.2357
26	0.3600	0.4756	0.5912	0.8223	1.2846
27	0.3734	0.4934	0.6134	0.8534	1.3335
28	0.3867	0.5112	0.6356	0.8846	1.3824
29	0.4001	0.5290	0.6579	0.9157	1.4313
30	0.4134	0.5467	0.6801	0.9468	1.4802
31	0.4267	0.5645	0.7023	0.9779	1.5291
32	0.4401	0.5823	0.7245	1.0090	1.5780
33	0.4534	0.6001	0.7468	1.0401	1.6269
34	0.4667	0.6179	0.7690	1.0712	1.6758
35	0.4801	0.6356	0.7912	1.1024	1.7247
36	0.4934	0.6534	0.8134	1.1335	1.7736
37	0.5067	0.6712	0.8357	1.1646	1.8225
38	0.5201	0.6890	0.8579	1.1957	1.8713
39	0.5334	0.7068	0.8801	1.2268	1.9202
40	0.5467	0.7245	0.9023	1.2579	1.9691
41	0.5601	0.7423	0.9246	1.2891	2.0180
42	0.5734	0.7601	0.9468	1.3202	2.0669
43	0.5867	0.7779	0.9690	1.3513	2.1158
44	0.6001	0.7957	0.9912	1.3824	2.1647
45	0.6134	0.8134	1.0135	1.4135	2.2136
46	0.6267	0.8312	1.0357	1.4446	2.2625
47	0.6401	0.8490	1.0579	1.4757	2.3114
48	0.6887	0.8936	1.1186	1.5587	2.4186

Copper Factors for Instrumentation Cables - CuF

Cu TOS

Triad Instrumentation Over all Screen Cables

No. of Pairs Cable size in sq.mm	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.0190	0.0255	0.0326	0.0466	0.0728
2	0.0400	0.0533	0.0667	0.0933	0.1467
3	0.0533	0.0733	0.0933	0.1334	0.2134
4	0.0662	0.0926	0.1209	0.1768	0.2806
5	0.0800	0.1133	0.1467	0.2134	0.3467
6	0.0948	0.1343	0.1769	0.2606	0.4197
7	0.1067	0.1534	0.2000	0.2934	0.4801
8	0.1236	0.1764	0.2333	0.3452	0.5579
9	0.1334	0.1934	0.2534	0.3734	0.6134
10	0.1522	0.2182	0.2894	0.4293	0.6952
11	0.1600	0.2334	0.3067	0.4534	0.7468
12	0.1808	0.2601	0.3454	0.5133	0.8324
13	0.1867	0.2734	0.3600	0.5334	0.8801
14	0.2000	0.2934	0.3867	0.5734	0.9468
15	0.2134	0.3134	0.4134	0.6134	1.0135
16	0.2267	0.3334	0.4401	0.6534	1.0801
17	0.2400	0.3534	0.4667	0.6934	1.1468
18	0.2534	0.3734	0.4934	0.7334	1.2135
19	0.2667	0.3934	0.5201	0.7734	1.2802
20	0.2800	0.4134	0.5467	0.8134	1.3468
21	0.2934	0.4334	0.5734	0.8534	1.4135
22	0.3067	0.4534	0.6001	0.8934	1.4802
23	0.3200	0.4734	0.6267	0.9335	1.5469
24	0.3334	0.4934	0.6534	0.9735	1.6135
25	0.3467	0.5134	0.6801	1.0135	1.6802
26	0.3600	0.5334	0.7068	1.0535	1.7469
27	0.3734	0.5534	0.7334	1.0935	1.8136
28	0.3867	0.5734	0.7601	1.1335	1.8802
29	0.4001	0.5934	0.7868	1.1735	1.9469
30	0.4134	0.6134	0.8134	1.2135	2.0136
31	0.4267	0.6334	0.8401	1.2535	2.0803
32	0.4401	0.6534	0.8668	1.2935	2.1469
33	0.4534	0.6734	0.8934	1.3335	2.2136
34	0.4667	0.6934	0.9201	1.3735	2.2803
35	0.4801	0.7134	0.9468	1.4135	2.3470
36	0.4934	0.7334	0.9735	1.4535	2.4136
37	0.5067	0.7534	1.0001	1.4935	2.4803
38	0.5201	0.7734	1.0268	1.5335	2.5470
39	0.5334	0.7934	1.0535	1.5735	2.6137
40	0.5467	0.8134	1.0801	1.6135	2.6803
41	0.5601	0.8334	1.1068	1.6535	2.7470
42	0.5734	0.8534	1.1335	1.6935	2.8137
43	0.5867	0.8734	1.1601	1.7336	2.8804
44	0.6001	0.8934	1.1868	1.7736	2.9470
45	0.6134	0.9134	1.2135	1.8136	3.0137
46	0.6267	0.9335	1.2402	1.8536	3.0804
47	0.6401	0.9535	1.2668	1.8936	3.1471
48	0.6534	0.9735	1.2935	1.9336	3.2137

Copper Factors for Instrumentation Cables - CuF

Cu TIS

Triad Instrumentation Individual & Overall Screen Cables					
No. of Pairs Cable size in sq.mm	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.0178	0.0245	0.0312	0.0446	0.0715
2	0.0489	0.0622	0.0756	0.1022	0.1556
3	0.0667	0.0867	0.1067	0.1467	0.2267
4	0.0845	0.1108	0.1393	0.1951	0.3012
5	0.1022	0.1356	0.1689	0.2356	0.3689
6	0.1222	0.1617	0.2043	0.2880	0.4423
7	0.1378	0.1845	0.2311	0.3245	0.5112
8	0.1602	0.2130	0.2699	0.3818	0.5881
9	0.1734	0.2334	0.2934	0.4134	0.6534
10	0.1980	0.2640	0.3351	0.4750	0.7328
11	0.2089	0.2823	0.3556	0.5023	0.7957
12	0.2357	0.3149	0.4003	0.5682	0.8776
13	0.2445	0.3312	0.4178	0.5912	0.9379
14	0.2623	0.3556	0.4489	0.6356	1.0090
15	0.2800	0.3800	0.4801	0.6801	1.0801
16	0.2978	0.4045	0.5112	0.7245	1.1513
17	0.3156	0.4289	0.5423	0.7690	1.2224
18	0.3334	0.4534	0.5734	0.8134	1.2935
19	0.3512	0.4778	0.6045	0.8579	1.3646
20	0.3689	0.5023	0.6356	0.9023	1.4357
21	0.3867	0.5267	0.6668	0.9468	1.5069
22	0.4045	0.5512	0.6979	0.9912	1.5780
23	0.4223	0.5756	0.7290	1.0357	1.6491
24	0.4401	0.6001	0.7601	1.0801	1.7202
25	0.4578	0.6245	0.7912	1.1246	1.7913
26	0.4756	0.6490	0.8223	1.1690	1.8625
27	0.4934	0.6734	0.8534	1.2135	1.9336
28	0.5112	0.6979	0.8846	1.2579	2.0047
29	0.5290	0.7223	0.9157	1.3024	2.0758
30	0.5467	0.7468	0.9468	1.3468	2.1469
31	0.5645	0.7712	0.9779	1.3913	2.2181
32	0.5823	0.7957	1.0090	1.4357	2.2892
33	0.6001	0.8201	1.0401	1.4802	2.3603
34	0.6179	0.8446	1.0712	1.5246	2.4314
35	0.6356	0.8690	1.1024	1.5691	2.5025
36	0.6534	0.8934	1.1335	1.6135	2.5737
37	0.6712	0.9179	1.1646	1.6580	2.6448
38	0.6890	0.9423	1.1957	1.7024	2.7159
39	0.7068	0.9668	1.2268	1.7469	2.7870
40	0.7245	0.9912	1.2579	1.7913	2.8581
41	0.7423	1.0157	1.2891	1.8358	2.9293
42	0.7601	1.0401	1.3202	1.8802	3.0004
43	0.7779	1.0646	1.3513	1.9247	3.0715
44	0.7957	1.0890	1.3824	1.9691	3.1426
45	0.8134	1.1135	1.4135	2.0136	3.2137
46	0.8312	1.1379	1.4446	2.0580	3.2849
47	0.8490	1.1624	1.4757	2.1025	3.3560
48	0.8668	1.1868	1.5069	2.1469	3.4271

Steel Factors for Instrumentation Cables - FeF

Fe POS

Pair Instrumentation Over all Screen Cables

No. of Pairs Cable size in sq.mm	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.1490	0.1565	0.1635	0.1735	0.1930
2	0.2190	0.2335	0.2470	0.2665	0.2595
3	0.2360	0.2545	0.2690	0.2900	0.2680
4	0.2390	0.2580	0.2715	0.2945	0.2830
5	0.2630	0.2820	0.2420	0.2805	0.3155
6	0.2840	0.3160	0.2805	0.2995	0.3430
7	0.2840	0.2595	0.2805	0.2995	0.3430
8	0.3235	0.2930	0.3030	0.3315	0.3780
9	0.2805	0.3180	0.3290	0.3590	0.4205
10	0.2970	0.3215	0.3455	0.3755	0.4385
11	0.3005	0.3255	0.3490	0.3805	0.4435
12	0.3055	0.3440	0.3680	0.3880	0.4520
13	0.3265	0.3530	0.3780	0.4105	0.4785
14	0.3265	0.3530	0.3780	0.4105	0.4785
15	0.3490	0.3765	0.4015	0.4365	0.5195
16	0.3490	0.3765	0.4015	0.4365	0.5195
17	0.3590	0.4005	0.4140	0.4635	0.5470
18	0.3590	0.4005	0.4265	0.4635	0.5470
19	0.3590	0.4005	0.4265	0.4635	0.5470
20	0.3830	0.4240	0.4535	0.4920	0.5760
21	0.3830	0.4240	0.4535	0.4920	0.5760
22	0.4065	0.4520	0.4785	0.5310	0.6190
23	0.4065	0.4520	0.4810	0.5310	0.6190
24	0.4305	0.4770	0.5070	0.5595	0.6475
25	0.4305	0.4770	0.5070	0.5595	0.6475
26	0.4305	0.4770	0.5070	0.5595	0.6475
27	0.4355	0.4820	0.5245	0.5660	0.6700
28	0.4570	0.5045	0.5345	0.5895	0.6950
29	0.4570	0.5045	0.5345	0.5895	0.6950
30	0.4570	0.5045	0.5345	0.5895	0.6950
31	0.4795	0.5285	0.5595	0.6150	0.7225
32	0.4820	0.5285	0.5595	0.6150	0.7225
33	0.4820	0.5285	0.5595	0.6150	0.7225
34	0.4920	0.5520	0.5835	0.6410	0.7500
35	0.4920	0.5520	0.5835	0.6410	0.7500
36	0.4920	0.5520	0.5835	0.6410	0.7500
37	0.4920	0.5520	0.5835	0.6410	0.7500
38	0.5145	0.5760	0.6225	0.6550	0.7805
39	0.5145	0.5760	0.6225	0.6550	0.7805
40	0.5145	0.5760	0.6225	0.6550	0.7805
41	0.5395	0.6025	0.6475	0.6975	0.8230
42	0.5395	0.6025	0.6475	0.6975	0.8230
43	0.5395	0.6025	0.6475	0.6975	0.8230
44	0.5635	0.6265	0.6735	0.7250	0.8540
45	0.5635	0.6265	0.6760	0.7250	0.8540
46	0.5635	0.6265	0.6760	0.7250	0.8540
47	0.5635	0.6265	0.6760	0.7250	0.8540
48	0.5635	0.6265	0.6760	0.7375	0.8665

Steel Factors for Instrumentation Cables - FeF

Fe PIS

Pair Instrumentation Individual and Over all Screen Cables

No. of Pairs Cable size in sq.mm	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.1880	0.1980	0.2070	0.2220	0.2410
2	0.2315	0.2460	0.2595	0.2815	0.2755
3	0.2505	0.2690	0.2820	0.2495	0.2830
4	0.2645	0.2830	0.2420	0.2805	0.3155
5	0.2895	0.2730	0.2805	0.3005	0.3430
6	0.2755	0.2980	0.3005	0.3280	0.3730
7	0.2755	0.2980	0.3005	0.3280	0.3730
8	0.2980	0.3215	0.3455	0.3740	0.4230
9	0.3230	0.3490	0.3730	0.4040	0.4685
10	0.3405	0.3655	0.3765	0.4215	0.4885
11	0.3430	0.3690	0.3815	0.4265	0.4945
12	0.3490	0.3765	0.4015	0.4470	0.5160
13	0.3715	0.3990	0.4255	0.4720	0.5420
14	0.3715	0.3990	0.4255	0.4720	0.5420
15	0.3955	0.4240	0.4510	0.5020	0.5720
16	0.3955	0.4240	0.4510	0.5020	0.5720
17	0.4190	0.4495	0.4795	0.5295	0.6150
18	0.4190	0.4495	0.4795	0.5295	0.6150
19	0.4190	0.4495	0.4795	0.5295	0.6150
20	0.4445	0.4770	0.5060	0.5570	0.6450
21	0.4445	0.4895	0.5060	0.5695	0.6450
22	0.4695	0.5045	0.5345	0.5870	0.6885
23	0.4695	0.5045	0.5345	0.5870	0.6885
24	0.4970	0.5310	0.5620	0.6285	0.7210
25	0.4970	0.5310	0.5620	0.6285	0.7210
26	0.4970	0.5310	0.5620	0.6285	0.7210
27	0.5035	0.5495	0.5810	0.6360	0.7410
28	0.5135	0.5610	0.6050	0.6610	0.7690
29	0.5135	0.5610	0.6050	0.6610	0.7690
30	0.5260	0.5610	0.6050	0.6610	0.7690
31	0.5495	0.5845	0.6300	0.6885	0.7990
32	0.5495	0.5845	0.6300	0.6885	0.7990
33	0.5495	0.5845	0.6300	0.6885	0.7990
34	0.5735	0.6225	0.6585	0.7285	0.8405
35	0.5735	0.6225	0.6585	0.7285	0.8405
36	0.5735	0.6225	0.6585	0.7285	0.8405
37	0.5735	0.6225	0.6585	0.7285	0.8405
38	0.5990	0.6485	0.6850	0.7575	0.8740
39	0.5990	0.6485	0.6850	0.7575	0.8740
40	0.5990	0.6485	0.6850	0.7575	0.8740
41	0.6250	0.6775	0.7135	0.7880	0.9180
42	0.6250	0.6775	0.7135	0.7880	0.9180
43	0.6250	0.6775	0.7135	0.7880	0.9180
44	0.6485	0.7050	0.7410	0.8165	0.9495
45	0.6485	0.7050	0.7410	0.8165	0.9495
46	0.6485	0.7050	0.7410	0.8165	0.9495
47	0.6485	0.7050	0.7410	0.8165	0.9495
48	0.6485	0.7050	0.7535	0.8290	0.9620

Steel Factors for Instrumentation Cables - FeF

Fe TOS

Triad Instrumentation Overall Screen Cables

No. of Pairs Cable size in sq.mm	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.1550	0.1635	0.1735	0.1855	0.2065
2	0.2400	0.2555	0.2715	0.2965	0.2945
3	0.2595	0.2790	0.2955	0.2805	0.3145
4	0.2730	0.2925	0.3260	0.2955	0.3305
5	0.3060	0.2730	0.2955	0.3145	0.3590
6	0.2755	0.2920	0.3145	0.3415	0.4005
7	0.2755	0.2920	0.3145	0.3415	0.4005
8	0.3105	0.3355	0.3590	0.3890	0.4535
9	0.3365	0.3630	0.3880	0.4320	0.4995
10	0.3530	0.3790	0.4040	0.4495	0.5185
11	0.3565	0.3830	0.4090	0.4545	0.5235
12	0.3630	0.3905	0.4165	0.4635	0.5445
13	0.3855	0.4140	0.4410	0.4895	0.5725
14	0.3855	0.4140	0.4410	0.4895	0.5725
15	0.4080	0.4385	0.4660	0.5295	0.6150
16	0.4080	0.4385	0.4660	0.5295	0.6150
17	0.4335	0.4635	0.5060	0.5570	0.6450
18	0.4335	0.4635	0.5060	0.5570	0.6450
19	0.4335	0.4635	0.5060	0.5570	0.6450
20	0.4585	0.4920	0.5335	0.5875	0.6885
21	0.4585	0.4920	0.5335	0.6040	0.6885
22	0.4835	0.5310	0.5610	0.6290	0.7355
23	0.4835	0.5310	0.5610	0.6460	0.7355
24	0.5085	0.5585	0.6025	0.6585	0.7665
25	0.5085	0.5585	0.6025	0.6585	0.7665
26	0.5085	0.5585	0.6025	0.6660	0.7665
27	0.5145	0.5635	0.6090	0.6935	0.7880
28	0.5395	0.5875	0.6325	0.7060	0.8165
29	0.5395	0.5875	0.6325	0.7060	0.8165
30	0.5395	0.5875	0.6325	0.7060	0.8165
31	0.5635	0.6125	0.6560	0.7335	0.8565
32	0.5635	0.6125	0.6560	0.7335	0.8565
33	0.5635	0.6125	0.6560	0.7335	0.8565
34	0.5875	0.6375	0.6850	0.7730	0.8890
35	0.5875	0.6375	0.6850	0.7730	0.8890
36	0.5875	0.6375	0.6850	0.7730	0.8890
37	0.5875	0.6375	0.6850	0.7730	0.8890
38	0.6125	0.6760	0.7150	0.8030	0.9345
39	0.6125	0.6760	0.7150	0.8030	0.9345
40	0.6125	0.6760	0.7150	0.8030	0.9345
41	0.6500	0.7050	0.7555	0.8315	0.9785
42	0.6500	0.7050	0.7555	0.8315	0.9785
43	0.6500	0.7050	0.7555	0.8315	0.9785
44	0.6760	0.7310	0.7815	0.8765	1.0230
45	0.6760	0.7310	0.7815	0.8765	1.0230
46	0.6760	0.7310	0.7815	0.8765	1.0230
47	0.6760	0.7310	0.7815	0.8765	1.0230
48	0.6760	0.7310	0.7940	0.8765	1.0230

Steel Factors for Instrumentation Cables - FeF

Fe TIS

Triad Instrumentation Individual and Overall Screen Cables

No. of Pairs Cable size in sq.mm	0.5 sq.mm	0.75 sq.mm	1.0 sq.mm	1.5 sq.mm	2.5 sq.mm
1	0.195	0.207	0.217	0.231	0.253
2	0.252	0.270	0.284	0.270	0.309
3	0.276	0.293	0.272	0.297	0.332
4	0.309	0.276	0.296	0.315	0.359
5	0.278	0.293	0.315	0.343	0.389
6	0.296	0.321	0.343	0.372	0.433
7	0.296	0.321	0.343	0.372	0.433
8	0.341	0.366	0.391	0.436	0.504
9	0.368	0.396	0.434	0.469	0.537
10	0.354	0.413	0.439	0.489	0.570
11	0.389	0.417	0.445	0.494	0.576
12	0.408	0.439	0.465	0.515	0.599
13	0.432	0.462	0.492	0.542	0.627
14	0.432	0.462	0.492	0.542	0.627
15	0.457	0.491	0.519	0.571	0.671
16	0.457	0.491	0.519	0.571	0.671
17	0.484	0.517	0.547	0.613	0.705
18	0.484	0.517	0.547	0.613	0.705
19	0.484	0.517	0.547	0.613	0.705
20	0.512	0.545	0.589	0.645	0.751
21	0.512	0.545	0.589	0.645	0.751
22	0.540	0.588	0.619	0.691	0.798
23	0.540	0.588	0.619	0.691	0.798
24	0.566	0.615	0.661	0.721	0.844
25	0.566	0.615	0.661	0.721	0.844
26	0.566	0.615	0.661	0.721	0.844
27	0.585	0.648	0.670	0.743	0.854
28	0.610	0.648	0.696	0.771	0.873
29	0.610	0.660	0.696	0.771	0.873
30	0.610	0.660	0.696	0.771	0.898
31	0.634	0.689	0.736	0.812	0.929
32	0.634	0.689	0.736	0.812	0.929
33	0.634	0.689	0.736	0.812	0.929
34	0.660	0.715	0.764	0.841	0.974
35	0.660	0.715	0.764	0.841	0.974
36	0.660	0.715	0.764	0.841	0.974
37	0.660	0.715	0.764	0.841	0.974
38	0.689	0.743	0.793	0.887	1.020
39	0.689	0.743	0.793	0.887	1.020
40	0.689	0.743	0.793	0.887	1.020
41	0.716	0.784	0.836	0.919	1.070
42	0.716	0.784	0.836	0.919	1.070
43	0.716	0.784	0.836	0.919	1.070
44	0.756	0.813	0.867	0.962	1.103
45	0.756	0.813	0.867	0.962	1.103
46	0.756	0.813	0.867	0.962	1.103
47	0.756	0.813	0.867	0.962	1.103
48	0.756	0.826	0.879	0.962	1.116