

संदर्भ/Ref : CC-ENGG-C2021001-1001422-T14221-4521-BMDA+0BE

Date : 13/03/2024

From : NITESH KUMAR SINHA
Senior DGM**To :** SKIPPER LTD.
3A loudon Street Kolkata 700017
700017**Cc :** ER**Subject :** Tower Package-TW01 for Indian Portion of New Butwal-Gorakhpur 400kV D/C (Quad) line
LOA Ref : 5002002333/CONSULTANCY GIVEN/DOM/A04-CC CS-5/NOA-I/01,NOA-II/02 Dated 13/06/2023

Please find enclosed following drawings/ documents for necessary action at your end.

Vendor Drg. No. : SL/PGCIL/400KV/BUTW-GRKH/DA/+0MBE
Orgn. Drg. No. : C2021001-1001422-T14221-4521-BMDA+0BE
Revision No. : 01
Drg. Title : BILL OF MATERIAL FOR TT DA +0M BE FOR 400 kV D/C WZ-5 (ACSR MOOSE) TL
App. Category : CAT-I
Release Date : 13/03/2024



Scan to verify

Comments : APPROVED**अनुमोदित श्रेणी/App. Category:**

- I. फेब्रिकेशन/निर्माण/टाइप टेस्टिंग हेतु जारी।
Approved/released for fabrication/construction.
- II. फेब्रिकेशन/निर्माण/टाइप टेस्टिंग हेतु अनुमोदित/जारी बशर्ते दिए गए टिप्पणियाँ एवं आशोधनों की सम्मिलित किया जाये। कृपया रिवाइज्ड दस्तावेज अनुमोदनार्थ प्रस्तुत करें।
Approved/released for fabrication/ construction subject to incorporation of comments and modification as noted. Revised drawing required for approval.
- III. टिप्पणियाँ सम्मिलित करने के उपरांत दस्तावेज को अनुमोदनार्थ प्रस्तुत करें।
To be resubmitted for approval after incorporating the comments.
- IV. सूचनार्थ एवं रिकार्ड हेतु।
For information and record.
- CATREL/
REL-CON निर्माण हेतु जारी।
Released for construction.

नोट/Note:

1. Approval/Comments conveyed herein neither relieve the contractor of his contractual obligations and his responsibilities, weights, quantities, design details assemble fits, performance particulars and conformity of the supplies with the Indian Statutory Laws as may be applicable, nor does it limits the purchaser's right under the contract.
2. The approval conveyed vide this letter does not cover the approval of make for sub-vendor items.

BOM NO. SL/PGCIL/400KV/BUTW-GRKH/14/DA/+0MBE

NO. OF SHEET : 5

POWER GRID CORPORATION OF INDIA LTD.

(A Government of India Enterprise)

BILL OF MATERIALSINITIAL / FINAL
(GALVANIZED)

STRUCTURE UNIT : 400KV D/C "DA(0°-2°) MKD"G507 DA"

PART : +0M BODY EXTN.

REF.DRG.NO. : C:ENGG:TL:4524-4ACSR-M-P-10 (SHEET 1 TO 3)

NOA No. : 5002002333/CONSULTANCY GIVEN/DOM/ A04-CC CS -5/NOA-I/01 Dated 13.06.2023 (Supply) & 5002002333/CONSULTANCY GIVEN/DOM/A04-CC-CS -5/NOA-II/02 Dated 13.06.2023 (Service)

LINE NAME : Tower Package TW0I for India Portion of 400 KV D/C (Quad Moose) New Butwal - Gorakhpur Transmission Line.
(Specification No. 5002002333/ CONSULTANCY GIVEN/DOM/A04-CC CS-5)

NOTE FOR PREFIX

SP4BDA XXX	FOR M.S
SP4BDA XXXH	FOR H.T

THIS BILL OF MATERIAL IS APPLICABLE FOR MANUFACTURE OF TOWERS
AT FACTORY OF SKIPPER LIMITED, HOWRAH

SUMMARY OF WEIGHTS

SL.NO.	DESCRIPTION	WEIGHT OF +0M BODY EXTN.		
1	WT.OF ALL (HT) MEMBERS IN KGS.	2159.66		
2	WT.OF ALL (MS) MEMBERS IN KGS.(INCL. PACK WASHERS)	1621.23		
3	WT.OF BOLT & NUTS IN KGS.	146.40		
	TOTAL WT. OF STRUCTURES IN KGS.	3927.29		
B	UNIVERSAL PLATE REVISED AS PER PGCIL COMMENTS		04.03.2024	BKL
A	PROTO CORRECTED & SUCCESSFULLY TESTED AT SKIPPER LTD. TEST BED DATED 20.12.23		27.12.2023	BKL
0	FIRST ISSUE		18.10.2023	BKL
REV. No.	DESCRIPTION		DATE	INITIAL
PREPARED BY:	CHECKED BY:	VERIFIED BY:	CONTRACTOR	
P.KOLE	B.K.LAHA	S.B	SKIPPER LIMITED KOLKATA	

WARNING : THIS IS PROPRIETARY ITEM AND DESIGN RIGHT IS STRICTLY RESERVED WITH POWERGRID.UNDER NO CIRCUMSTANCES
THIS DRAWING SHALL BE USED BY ANYBODY WITHOUT PRIOR PERMISSION FROM THE OWNER IN WRITING.

Tower Package TW0I for India Portion of 400 KV D/C (Quad Moose) New Butwal - Gorakhpur Transmission Line.
(Specification No. 5002002333/ CONSULTANCY GIVEN/DOM/A04-CC CS-5)

BOM NO. SL/PGCIL/400KV/BUTW-GRKH/DD/+0MBE

STRUCTURE : 400KV D/C "DA(0°-2°)"-MKD"G507 DA"

BILL OF MATERIALS

PART : +0M BODY EXTN.

SL.No.	MARK No.		SECTION / PLATE THICKNESS (mm)	PLATE WIDTH (mm)	LENGTH (mm)	UNIT WT (kg/m)	WEIGHT/PC (kg)	PIECES / STRUCT.	TOTAL WT. (kg)	REMARKS
1	SP4BDA	600H	HL150X150X14	140	4887	31.60	154.43	2	308.86	
2	SP4BDA	601H	HL150X150X14		4887	31.60	154.43	2	308.86	
3	SP4BDA	602H	HL150X150X14		4487	31.60	141.79	2	283.58	
4	SP4BDA	603H	HL150X150X14		4487	31.60	141.79	2	283.58	
5	SP4BDA	604H	HL130X130X10		422	19.72	8.32	8	66.56	
6	SP4BDA	605H	H12 THK.		422	94.20	5.57	16	89.12	
7	SP4BDA	606H	HL80X80X6		6800	7.36	50.05	2	100.10	
8	SP4BDA	607H	HL80X80X6		6800	7.36	50.05	2	100.10	
9	SP4BDA	608H	HL80X80X6		5576	7.36	41.04	2	82.08	
10	SP4BDA	609H	HL80X80X6		5576	7.36	41.04	2	82.08	
11	SP4BDA	610H	HL60X60X5	70	346	4.58	1.58	2	3.16	
12	SP4BDA	611H	HL60X60X5		346	4.58	1.58	2	3.16	
13	SP4BDA	612H	H8 THK.		306	62.80	1.35	8	10.80	
14	SP4BDA	613H	H12 THK.		444	94.20	6.52	2	13.04	
15	SP4BDA	614	L45X45X4		1128	2.75	3.10	2	6.20	
16	SP4BDA	615	L45X45X4		1128	2.75	3.10	2	6.20	
17	SP4BDA	616	L45X45X4		1737	2.75	4.78	2	9.56	
18	SP4BDA	617	L45X45X4		1737	2.75	4.78	2	9.56	
19	SP4BDA	618	L55X55X4		2205	3.40	7.50	2	15.00	
20	SP4BDA	619	L55X55X4		2205	3.40	7.50	2	15.00	
21	SP4BDA	620	L50X50X4	156	2384	3.08	7.34	2	14.68	
22	SP4BDA	621	L50X50X4		2384	3.08	7.34	2	14.68	
23	SP4BDA	622	L65X65X5		3283	4.98	16.35	2	32.70	
24	SP4BDA	623	L65X65X5		3283	4.98	16.35	2	32.70	
25	SP4BDA	624	L45X45X4		2919	2.75	8.03	2	16.06	
26	SP4BDA	625	L45X45X4		2919	2.75	8.03	2	16.06	
27	SP4BDA	626	L45X45X4		1737	2.75	4.78	2	9.56	
28	SP4BDA	627	L45X45X4		1737	2.75	4.78	2	9.56	
29	SP4BDA	628	L45X45X4		1191	2.75	3.28	2	6.56	
30	SP4BDA	629	L45X45X4		1191	2.75	3.28	2	6.56	
31	SP4BDA	630	L60X60X5	156	4360	4.58	19.97	2	39.94	
32	SP4BDA	631	L60X60X5		4360	4.58	19.97	2	39.94	
33	SP4BDA	632	L60X60X5		4937	4.58	22.61	2	45.22	
34	SP4BDA	633	L60X60X5		4937	4.58	22.61	2	45.22	
35	SP4BDA	634	L50X50X4		1620	3.08	4.99	2	9.98	
36	SP4BDA	635	L50X50X4		1620	3.08	4.99	2	9.98	
37	SP4BDA	636	L55X55X4		1959	3.40	6.66	2	13.32	
38	SP4BDA	637	L55X55X4		1959	3.40	6.66	2	13.32	
39	SP4BDA	638	L45X45X4		1558	2.75	4.28	2	8.56	
40	SP4BDA	639	L45X45X4		1558	2.75	4.28	2	8.56	
41	SP4BDA	640	L45X45X4	156	3106	2.75	8.54	2	17.08	
42	SP4BDA	641	L45X45X4		3106	2.75	8.54	2	17.08	
43	SP4BDA	642H	HL45X45X4		1667	2.75	4.58	2	9.16	
44	SP4BDA	643H	HL45X45X4		1667	2.75	4.58	2	9.16	
45	SP4BDA	644	L50X50X4		2369	3.08	7.30	2	14.60	

Tower Package TW0I for India Portion of 400 KV D/C (Quad Moose) New Butwal - Gorakhpur Transmission Line.
(Specification No. 5002002333/ CONSULTANCY GIVEN/DOM/A04-CC CS-5)

BOM NO. SL/PGCIL/400KV/BUTW-GRKH/DD/+0MBE

STRUCTURE : 400KV D/C "DA(0°-2°)"-MKD"G507 DA"

BILL OF MATERIALS

PART : +0M BODY EXTN.

SL.No.	MARK No.		SECTION / PLATE THICKNESS (mm)	PLATE WIDTH (mm)	LENGTH (mm)	UNIT WT (kg/m)	WEIGHT/PC (kg)	PIECES / STRUCT.	TOTAL WT. (kg)	REMARKS
46	SP4BDA	645	L50X50X4	80	2369	3.08	7.30	2	14.60	
47	SP4BDA	646H	HL90X90X6		6178	8.32	51.40	2	102.80	
48	SP4BDA	647H	HL90X90X6	208	6178	8.32	51.40	2	102.80	
49	SP4BDA	648H	HL90X90X6		4903	8.32	40.79	2	81.58	
50	SP4BDA	649H	HL90X90X6	412	4903	8.32	40.79	2	81.58	
51	SP4BDA	650H	HL70X70X5		346	5.38	1.86	2	3.72	
52	SP4BDA	651H	HL70X70X5	208	346	5.38	1.86	2	3.72	
53	SP4BDA	652H	H8 THK.		346	62.80	1.74	8	13.92	
54	SP4BDA	653H	H12 THK.	208	412	94.20	8.07	2	16.14	
55	SP4BDA	654	L50X50X5		878	3.79	3.33	2	6.66	
56	SP4BDA	655	L50X50X5	208	878	3.79	3.33	2	6.66	
57	SP4BDA	656	L45X45X4		1707	2.75	4.69	2	9.38	
58	SP4BDA	657	L45X45X4	208	1707	2.75	4.69	2	9.38	
59	SP4BDA	658	L45X45X4		1707	2.75	4.69	2	9.38	
60	SP4BDA	659	L45X45X4	208	1707	2.75	4.69	2	9.38	
61	SP4BDA	660	L50X50X4		2161	3.08	6.66	2	13.32	
62	SP4BDA	661	L50X50X4	208	2161	3.08	6.66	2	13.32	
63	SP4BDA	662	L60X60X4		2535	3.71	9.40	2	18.80	
64	SP4BDA	663	L60X60X4	208	2535	3.71	9.40	2	18.80	
65	SP4BDA	664	L45X45X4		2414	2.75	6.64	2	13.28	
66	SP4BDA	665	L45X45X4	208	2414	2.75	6.64	2	13.28	
67	SP4BDA	666	L45X45X4		1702	2.75	4.68	2	9.36	
68	SP4BDA	667	L45X45X4	208	1702	2.75	4.68	2	9.36	
69	SP4BDA	668	L45X45X4		1042	2.75	2.87	2	5.74	
70	SP4BDA	669	L45X45X4	208	1042	2.75	2.87	2	5.74	
71	SP4BDA	670	L60X60X4		3363	3.71	12.48	2	24.96	
72	SP4BDA	671	L60X60X4	208	3363	3.71	12.48	2	24.96	
73	SP4BDA	672	L55X55X4		4279	3.40	14.55	2	29.10	
74	SP4BDA	673	L55X55X4	208	4279	3.40	14.55	2	29.10	
75	SP4BDA	674	L45X45X4		1293	2.75	3.56	2	7.12	
76	SP4BDA	675	L45X45X4	208	1293	2.75	3.56	2	7.12	
77	SP4BDA	676	L55X55X4		1838	3.40	6.25	2	12.50	
78	SP4BDA	677	L55X55X4	208	1838	3.40	6.25	2	12.50	
79	SP4BDA	678	L45X45X4		1549	2.75	4.26	2	8.52	
80	SP4BDA	679	L45X45X4	208	1549	2.75	4.26	2	8.52	
81	SP4BDA	680	L45X45X4		3143	2.75	8.64	2	17.28	
82	SP4BDA	681	L45X45X4	208	3143	2.75	8.64	2	17.28	
83	SP4BDA	682	L45X45X4		1258	2.75	3.46	2	6.92	
84	SP4BDA	683	L45X45X4	208	1258	2.75	3.46	2	6.92	
85	SP4BDA	684	L45X45X4		2114	2.75	5.81	2	11.62	
86	SP4BDA	685	L45X45X4	208	2114	2.75	5.81	2	11.62	
87	SP4BDA	686	L45X45X4		1343	2.75	3.69	4	14.76	
88	SP4BDA	687	L45X45X4	208	2980	2.75	8.20	2	16.40	
89	SP4BDA	688	L45X45X4		2515	2.75	6.92	2	13.84	
90	SP4BDA	689	L55X55X4	208	4125	3.40	14.03	2	28.06	

Tower Package TW0I for India Portion of 400 KV D/C (Quad Moose) New Butwal - Gorakhpur Transmission Line.
(Specification No. 5002002333/ CONSULTANCY GIVEN/DOM/A04-CC CS-5)

BOM NO. SL/PGCIL/400KV/BUTW-GRKH/DD/+0MBE

STRUCTURE : 400KV D/C "DA(0°-2°)"-MKD"G507 DA"

BILL OF MATERIALS

PART : +0M BODY EXTN.

SL.No.	MARK No.		SECTION / PLATE THICKNESS (mm)	PLATE WIDTH (mm)	LENGTH (mm)	UNIT WT (kg/m)	WEIGHT/PC (kg)	PIECES / STRUCT.	TOTAL WT. (kg)	REMARKS
91	SP4BDA	690	L55X55X4	50	3580	3.40	12.17	2	24.34	
92	SP4BDA	691	L55X55X4		5378	3.40	18.29	2	36.58	
93	SP4BDA	692	L50X50X4		4810	3.08	14.81	2	29.62	
94	SP4BDA	693	L55X55X4		4023	3.40	13.68	2	27.36	
95	SP4BDA	694	L55X55X4		3040	3.40	10.34	2	20.68	
96	SP4BDA	695	L45X45X4		286	2.75	0.79	2	1.58	
97	SP4BDA	696	L60X60X4		4487	3.71	16.65	2	33.30	
98	SP4BDA	697	L60X60X4		3587	3.71	13.31	2	26.62	
99	SP4BDA	698	L50X50X4		286	3.08	0.88	2	1.76	
100	SP4BDA	699	5 THK.		256	39.25	0.50	16	8.00	
101	SP4BDA	700	L50X50X4	120	2427	3.08	7.48	2	14.96	
102	SP4BDA	701	L55X55X4		2644	3.40	8.99	2	17.98	
103	SP4BDA	702	L45X45X4		1462	2.75	4.02	2	8.04	
104	SP4BDA	703	L45X45X4		1645	2.75	4.52	2	9.04	
105	SP4BDA	704	5 THK.		150	39.25	0.71	20	14.20	
106	SP4BDA	705	5 THK.		201	39.25	0.95	2	1.90	
107	SP4BDA	706	5 THK.		211	39.25	1.09	2	2.18	
108	SP4BDA	707	5 THK.		220	39.25	1.04	2	2.08	
109	SP4BDA	708	5 THK.		215	39.25	1.43	4	5.72	
110	SP4BDA	709	5 THK.		220	39.25	1.47	2	2.94	
111	SP4BDA	710	5 THK.	125	187	39.25	0.88	2	1.76	
112	SP4BDA	711	5 THK.		180	39.25	0.88	2	1.76	
113	SP4BDA	712	L45X45X4		2515	2.75	6.92	2	13.84	
114	SP4BDA	713	L45X45X4		2980	2.75	8.20	2	16.40	
115	SP4BDA	714	L55X55X4		3580	3.40	12.17	2	24.34	
116	SP4BDA	715	L55X55X4		4125	3.40	14.03	2	28.06	
117	SP4BDA	716	L50X50X4		4810	3.08	14.81	2	29.62	
118	SP4BDA	717	L55X55X4		5378	3.40	18.29	2	36.58	
119	SP4BDA	718	L60X60X4		4487	3.71	16.65	2	33.30	
120	SP4BDA	719	L60X60X4		3587	3.71	13.31	2	26.62	
121	SP4BDA	720	L50X50X4	120	286	3.08	0.88	2	1.76	
122	SP4BDA	721	L55X55X4		4023	3.40	13.68	2	27.36	
123	SP4BDA	722	L55X55X4		3040	3.40	10.34	2	20.68	
124	SP4BDA	723	L45X45X4		286	2.75	0.79	2	1.58	
125	SP4BDA	724	L55X55X4		2644	3.40	8.99	2	17.98	
126	SP4BDA	725	L50X50X4		2427	3.08	7.48	2	14.96	
127	SP4BDA	726	L45X45X4		1645	2.75	4.52	2	9.04	
128	SP4BDA	727	L45X45X4		1462	2.75	4.02	2	8.04	
129	SP4BDA	728	5 THK.		201	39.25	0.95	2	1.90	
130	SP4BDA	729	5 THK.		211	39.25	1.09	2	2.18	
131	SP4BDA	730	5 THK.	170	220	39.25	1.04	2	2.08	
132	SP4BDA	731	5 THK.		215	39.25	1.43	2	2.86	
133	SP4BDA	732	5 THK.		220	39.25	1.47	2	2.94	
134	SP4BDA	733	5 THK.		187	39.25	0.88	2	1.76	
135	SP4BDA	734	5 THK.		180	39.25	0.88	2	1.76	

Tower Package TW0I for India Portion of 400 KV D/C (Quad Moose) New Butwal - Gorakhpur Transmission Line.
(Specification No. 5002002333/ CONSULTANCY GIVEN/DOM/A04-CC CS-5)

BOM NO. SL/PGCIL/400KV/BUTW-GRKH/DD/+0MBE

STRUCTURE : 400KV D/C "DA(0°-2°)"-MKD"G507 DA"

BILL OF MATERIALS

PART : +0M BODY EXTN.

SL.No.	MARK No.		SECTION / PLATE THICKNESS (mm)	PLATE WIDTH (mm)	LENGTH (mm)	UNIT WT (kg/m)	WEIGHT/PC (kg)	PIECES / STRUCT.	TOTAL WT. (kg)	REMARKS
136	SP4BDA	735	6 THK.	110	189	47.10	0.98	2	1.96	
137	SP4BDA	736	6 THK.	110	189	47.10	0.98	2	1.96	
TOTAL WT=									3780.60	

For MILD STEEL : (As Per IS : 2062, Designated Y.S. 250Mpa)

For HIGH TENSILE STEEL : (As Per IS:2062, Designated Y.S. 350Mpa)

LIST OF PACK WASHERS

4 THK. PACK WASHERS (For 16 Ø Bolt)	0.014	0	0.00	
5 THK. PACK WASHERS (For 16 Ø Bolt)	0.018	16	0.29	
6 THK. PACK WASHERS (For 16 Ø Bolt)	0.021	0	0.00	
TOTAL WT.		0.29	Kgs	

WEIGHT OF STEEL MEMBERS

<u>A) TOTAL WT. OF HT STEEL FAB. MEMBER</u>	=	2159.66	Kgs
<u>B) TOTAL WT. OF MILD STEEL FAB. MEMBER</u>	=	1620.94	Kgs
<u>C) TOTAL WT. OF PACK WASHERS</u>	=	0.29	Kgs
GRAND TOTAL WT. OF FAB. MEMBER WITH PACK WASHERS (A+B+C)	=	3780.89	Kgs

LIST OF BOLTS & NUTS CONFORMING TO IS:12427 WITH MECHANICAL PROPERTIES
CONFORMING TO PROPERTY CLASS 5.6 FOR BOLTS AND CLASS 5.0 FOR NUTS.
LIST OF SPRING WASHERS (TYPE-B) AS PER IS:3063-1994, ELECTRO GALVD.

BOLT & NUTS

HRH BOLT / NUT FOR M16X35	0.119	226	26.89	
HRH BOLT / NUT FOR M16X40	0.126	202	25.45	
HRH BOLT / NUT FOR M16X45	0.134	288	38.59	
HRH BOLT / NUT FOR M16X50	0.142	8	1.14	
HRH BOLT / NUT FOR M16X55	0.150	0	0.00	
HRH BOLT / NUT FOR M16X60	0.158	184	29.07	
HRH BOLT / NUT FOR M16X65	0.164	8	1.31	
HRH BOLT / NUT FOR M16X70	0.173	0	0.00	
MS STD. SPR. WASHERS FOR M16 BOLTS	0.009	916	8.24	
STEP BOLTS OF 16X175MM DIA WITH 2 NUTS 1 S.W	0.374	42	15.71	
TOTAL WT. OF HEXAGONAL BOLTS / NUTS , SPRING WASHERS STEP BOLT	=	146.40	Kgs	

SUMMARY OF WEIGHTS

A) WT. OF MS MEMBERS	=	1620.94	Kgs
B) WT. OF PACK WASHERS	=	0.29	Kgs
C) WT. OF HT MEMBERS	=	2159.66	Kgs
D) WT. OF FAB MEMBERS (A+B+C)	=	3780.89	Kgs
E) WT. OF BOLT & NUTS	=	146.40	Kgs
F) TOTAL	=	3927.29	Kgs

REV. No	REVISION	DATE	INITIAL

SKIPPER LIMITED



Tower Package TW01 for India Portion of 400 KV D/C (Quad Moose) New Butwal - Gorakhpur Transmission Line.
(Specification No. 5002002333/ CONSULTANCY GIVEN/DOM/A04-CC CS-5)

STRUCTURE : 400KV D/C "DA(0°-2°)"-MKD"G507 DA"
PART : +0M BODY EXTN.

BOM NO. SI/PGCIL/400KV/BUTW-GRKH/DD/+0MBE

SECTION ABSTRACT					
MILD STEEL	WEIGHT (Kg)	HIGH TENSILE	WEIGHT (Kg)	MS. PLATE	WEIGHT
L40X40X3		HL45X30X4		2 THK.	
L40X40X4		HL45X30X5		3 THK.	
L40X40X5		HL45X45X4	18.32	4 THK.	
L40X40X6		HL45X45X5		5 THK.	56.02
L45X30X4		HL50X50X4		6 THK.	3.92
L45X30X5		HL50X50X5		8 THK.	
L45X45X4	456.92	HL55X55X4		10 THK.	
L45X45X3		HL55X55X5		14 THK.	
L45X45X5		HL60X60X4		32 THK.	
L45X45X6		HL60X60X5	6.32	20 THK.	
L50X50X3		HL60X60X6		22 THK.	
L50X50X4	197.84	HL65X65X4			
L50X50X5	13.32	HL65X65X5		TOTAL MS PLT.	59.94
L50X50X6		HL65X65X6			
L55X55X4	449.84	HL70X70X5	7.44	HT. PLATE	WEIGHT
L55X55X5		HL70X70X6		H6 THK.	
L55X55X6		HL75X75X5		H5 THK.	
L55X55X8		HL75X75X6		H8 THK.	24.72
L60X60X4	207.36	HL80X80X6	364.36	H10 THK.	
L60X60X5	170.32	HL80X80X8		H12 THK.	118.30
L60X60X6		HL90X90X6	368.76	H14 THK.	
L65X65X4		HL90X90X7		H16 THK.	
L65X65X5	65.40	HL90X90X8		H20 THK.	
L65X65X6		HL100X100X6		H18 THK.	
L80X80X5		HL100X100X7			
L70X70X5		HL100X100X8		TOTAL HT PLT.	143.02
L70X70X6		HL100X100X10			
L75X75X5		HL110X110X8			
L75X75X6		HL110X110X10			
L80X80X6		HL110X110X12			
L80X80X8		HL80X80X5			
L90X90X5		HL120X120X8			
L90X90X6		HL120X120X10			
L90X90X7		HL120X120X12			
L90X90X8		HL130X130X10	66.56		
L100X100X6		HL130X130X12			
L100X100X7		HL150X150X10			
L100X100X8		HL150X150X12			
L100X100X10		HL150X150X14	1184.88		
L150X150X20		HL90X90X5			
L200X200X16		HL110X110X6			
L200X200X20		HL110X110X7			
		HL120X120X7			
		HL200X200X12			
		HL200X200X17			
		HL120X120X9			
TOTAL	1561.00	TOTAL	2016.64		
		GRAND TOTAL =	3780.60		