

**Invitation to Bid No. :**

**Specification No. : RHDW-011/2556**

**C Material, equipment, and specifications for OVERHEAD LINE HARDWARE**

**C1 General material and packing instructions**

Additional to the general instructions, the following shall be observed :

**1a Scope**

These specifications cover line hardware for overhead line construction.

**1b Standard**

The overhead line hardware shall be in accordance with the latest TIS, VDE Regulations, DIN, and PEA Drawings attached to these specifications, or equivalent.

**1c Principal requirement**

The overhead line hardware shall be marked with manufacturer's name or trademark, except full thread double arming bolts, full thread stubbing bolts, and washers.

All ferrous materials shall be galvanized after manufacturing. Method of galvanizing and thickness of coating shall be according to the attached Table "THICKNESS OF ZINC COATING". Free samples shall be supplied on request. The samples will not be returned.

**1d Packing**

Each item should be packed in suitable packages in sets or pieces of 10, 50, 100, or that specified in Table "Packing Details for Overhead Line Hardware" (see page 3 of 3).

The gross weight of each package should not exceed 40 kg.

If there are several packages, the number of package shall be stamped on each package or each tag, as follows :

package number / total number of packages.

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**C2 Material and packing data to be given by bidder**

**2a** For each item offered, the following details shall be submitted with the bid :

Catalogue number.

Description of materials used for the component parts.

Surface finishing of the component parts.

Zinc coating in  $\text{g/m}^2$  or  $\mu\text{m}$  ( $1 \mu\text{m} = 0.001 \text{ mm}$ ).

Minimum breaking strength in kgf.

Weight in kg/set or piece.

**2b** For each item offered, a detail drawing with dimensions in mm shall be submitted with the bid.

**2c Packing details**

Packing method.

Number of sets or pieces in each package.

Dimensions of each package in cm.

Gross weight of each package in kg (should not exceed 40 kg).

Net weight of each package in kg.

Number of packages.

If several packages are contained in one big case, further details are required :

Number of packages in each case.

Dimensions of each case in cm.

Gross weight of each case in kg.

Number of cases.

Table

Packing Details for Overhead Line Hardware

PEA Material No.	Quantity Per Package	Packing Method
00120004, 01000103	18	Bundle
01200001, 01200002	20	Bundle
01010100, 01200004, 01200005	50	Bundle
01200007	150 (15 per layer)	Bundle
01110200, 01110201, 01140000, 01170001, 01180001	150	Sack
01110202, 01110203	100	Sack
01110204, 01110205, 01140001, 01140002	75	Sack
01110206, 01110207, 01110208, 01110401, 01120000, 01120001, 01120002, 01130000, 01130001, 01130002, 01140003	50	Sack
01180100, 01180201	500	Sack
01180301	5,000	Sack
02440102	30	Sack
02440103	60	Sack



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### Addendum

This addendum is made to be a part of specifications it's attached.

1. Replace the packing detail only for the specific items in the specifications by the packing detail specified in **Table A1** below:

**Table A1: Packing Detail**

Item	Equipment	PEA's material No.	Packing method	Quantity per package/case	Number of packages/cases per pallet
<b>Connectors and cable accessories:</b>					
1	Hot line bail clamp (hot line stirrup clamp), for main aluminium conductor size 25 mm <sup>2</sup> to 50 mm <sup>2</sup>	1-02-033-0000	Sealed package	40	49
2	Hot line protected thread clamp for main aluminium conductor size 25 mm <sup>2</sup> to 50 mm <sup>2</sup>	1-02-033-0100	Sealed package	50	100
3	Hot line protected thread clamp for main aluminium conductor size 50 mm <sup>2</sup> to 120 mm <sup>2</sup>	1-02-033-0101	Sealed package	50	50
4	Compression splicing sleeve, full tension, for aluminium conductor size 50 mm <sup>2</sup>	1-02-040-0002	Suitable package	100	100
5	Compression splicing sleeve, full tension, for aluminium conductor size 95 mm <sup>2</sup>	1-02-040-0004	Suitable package	50	100
6	Compression splicing sleeve, full tension, for aluminium conductor size 185 mm <sup>2</sup>	1-02-040-0007	Suitable package	30	50
7	Compression splicing sleeve, full tension, for aluminium conductor size 400 mm <sup>2</sup>	1-02-040-0009	Suitable package	30	50
8	Compression splicing sleeve, partial tension, for aluminium conductor size 50 mm <sup>2</sup>	1-02-041-0002	Suitable package	100	100
9	Terminal connector (lug), compression type, for aluminium conductor size 185 mm <sup>2</sup>	1-02-041-0106	Suitable package	50	50
10	Pin terminal, for aluminium conductor size 50 mm <sup>2</sup>	1-02-042-0400	Suitable package	50	100
<b>Overhead line hardware:</b>					
11	Angle steel crossarm, size 150x100x12 mm, length 4,500 mm	1-00-012-0002	Bundle	10	-
12	Channel steel crossarm, size 100x50x5 mm, length 4,200 mm	1-01-000-0103	Bundle	20	-
13	Channel steel crossarm, size 100x50x5 mm, length 4,500 mm	1-01-000-0104	Bundle	20	-
14	Channel steel crossarm, size 150x75x6 mm, length 2,800 mm	1-01-000-0300	Bundle	20	-
15	Channel steel crossarm, size 150x75x6.5 mm, length 4,000 mm	1-01-000-0301	Bundle	20	-



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Item	Equipment	PEA's material No.	Packing method	Quantity per package/case	Number of packages/cases per pallet
16	Channel steel beam, size 150x75x6.5 mm, length 4,500 mm	1-01-000-0302	Bundle	20	-
17	Channel steel beam, size 150x75x6.5 mm, length 6,000 mm	1-01-000-0303	Bundle	20	-
18	Channel steel beam, size 150x75x6.5 mm, length 2,500 mm	1-01-000-0304	Bundle	20	-
19	Channel steel crossarm, size 150x75x9 mm, length 3,000 mm	1-00-012-0004	Bundle	20	-
20	Angle steel beam, size 65x65x6 mm, length 1,000 mm	1-01-001-0000	Bundle	100	-
21	Bolt, machine, M 16 x 170 mm	1-01-011-0201	Sack	100	56
22	Bolt, machine, M 16 x 300 mm	1-01-011-0204	Sack	80	56
23	Bolt, machine, M 16 x 350 mm	1-01-011-0205	Sack	80	56
24	Bolt, machine, M 16 x 450 mm	1-01-011-0207	Sack	40	56
25	Bolt, machine, M 16 x 500 mm	1-01-011-0208	Sack	40	50
26	Bolt, machine, M 16 x 600 mm	1-01-011-0209	Sack	40	50
27	Bolt, machine, hexagon head, M 16 x 75 mm	1-01-011-0400	Sack	200	56
28	Bolt, machine, hexagon head, M 16 x 550 mm	1-01-011-0401	Sack	40	50
29	Bolt, machine, hexagon head, M 16 x 600 mm	1-01-011-0402	Sack	40	50
30	Bolt, machine, hexagon head, M 16 x 650 mm	1-01-011-0403	Sack	30	50
31	Bolt, double arming, full thread, M 16 x 450 mm	1-01-012-0001	Sack	40	50
32	Bolt, double arming, full thread, M 16 x 500 mm	1-01-012-0002	Sack	40	50
33	Bolt, double arming, full thread, M 16 x 550 mm	1-01-012-0003	Sack	40	50
34	Bolt, double arming, full thread, M 16 x 600 mm	1-01-012-0004	Sack	40	50
35	Bolt, double arming, full thread, M 16 x 650 mm	1-01-012-0005	Sack	30	50
36	Bolt, double arming eye, M 16 x 450 mm	1-01-013-0001	Sack	40	56
37	Bolt, double arming eye, M 16 x 500 mm	1-01-013-0002	Sack	40	50
38	Bolt, double arming eye, M 16 x 650 mm	1-01-013-0005	Sack	30	50
39	Bolt, round eye, M 16 x 200 mm	1-01-014-0001	Sack	80	56
40	Bolt, round eye, M 16 x 250 mm	1-01-014-0002	Sack	80	56
41	Bolt, round eye, M 16 x 300 mm	1-01-014-0003	Sack	50	56
42	Bolt, oval eye, M 16 x 150 mm	1-01-015-0000	Sack	80	56
43	Bolt, oval eye, M 16 x 200 mm	1-01-015-0001	Sack	80	56
<b>Insulators and accessories:</b>					
44	Insulator, pin-post type, TIS 1251, Type 56/57-2	1-03-001-0101	Export package	2	30
45	Clevis-eye	1-03-014-0000	Suitable package	40	56
46	Ball-clevis, ANSI Type K	1-03-014-0001	Suitable package	30	56



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Item	Equipment	PEA's material No.	Packing method	Quantity per package/case	Number of packages/cases per pallet
47	Ball-hook, ANSI Type B	1-03-014-0002	Suitable package	40	56
48	Ball-clevis, ANSI Type B	1-03-014-0005	Suitable package	40	56
<b>Surge arresters:</b>					
49	LV surge arrester, 480 V, 5 kA	1-04-000-0300	Suitable package	100	5
<b>Meters:</b>					
50	Watt-hour meter, 15(45) A, 3-phase 4-wire	1-06-005-0107	Suitable corrugate-paper package	50	-
51	Watt-hour meter, 30(100) A, 3-phase 4-wire	1-06-005-0108	Suitable corrugate-paper package	50	-

2. Sacks used for packing equipment shall have enough durability and shall be made of hemp rope.
3. Bundle packing shall be using galvanized steel wires with diameter not less than 4 mm.
4. Pallets supplied to PEA shall have dimension not more than 1.1 m x 1.1 m (Width x Length) and the total height after containing the packages/cases shall be less than 1.5 m.

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Item	PEA Material No.	Quantity	Description
1	01200001 (1010200001)		Brace, flat, for crossarm, of flat steel 30x6x760 mm, see Drawing No. K 31-09063.
2	01200002 (1010200002)		Ditto as Item 1, but 40x6x1,000 mm, see Drawing No. K 31-09063.
3	01200003 (1010200003)		Ditto as Item 1, but 50x10x1,950 mm, see Drawing No. SA2-015/39005.
4	01200004 (1010200004)		Brace, alley arm, of angle steel, 40x40x5 mm, 2,120 mm long, see Drawing No. K 31-09064.
5	01200005 (1010200005)		Ditto as Item 4, but 50x50x6 mm, 2,350 mm long, see Drawing No. K 31-09064.
6	01200007 (1010200007)		Brace, for crossarm, of hot-rolled equal angle steel, 50x50x6 mm, 1,800 mm wide, 450 mm drop, hot-dip galvanized not less than 50 micrometer, see Drawing No. SB1-015/22014.
7	01110000 (1010110000)		Bolt, machine, of mild steel, square head, similar to DIN 601, M 8, 25 mm long, length of thread 22 mm, complete with one (1) square nut, see Drawing No. I50-015/140367.
8	01110101 (1010110101)		Ditto as Item 7, but M 12, 50 mm long, length of thread 40 mm, see Drawing No. I50-015/140367.
9	01110200 (1010110200)		Ditto as Item 7, but M 16, 130 mm long, length of thread 35 mm, see Drawing No. K31-09072.
10	01110201 (1010110201)		Ditto as Item 7, but M 16, 170 mm long, length of thread 50 mm, see Drawing No. K31-09072.
11	01110202 (1010110202)		Ditto as Item 7, but M 16, 200 mm long, length of thread 50 mm, see Drawing No. K31-09072.

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Item	PEA Material No.	Quantity	Description
12	01110203 (1010110203)		Ditto as Item 7, but M 16, 250 mm long, length of thread 75 mm, see Drawing No. K31-09072.
13	01110204 (1010110204)		Ditto as Item 7, but M 16, 300 mm long, length of thread 75 mm, see Drawing No. K31-09072.
14	01110205 (1010110205)		Ditto as Item 7, but M 16, 350 mm long, length of thread 75 mm, see Drawing No. K31-09072.
15	01110206 (1010110206)		Ditto as Item 7, but M 16, 400 mm long, length of thread 100 mm, see Drawing No. K31-09072.
16	01110207 (1010110207)		Ditto as Item 7, but M 16, 450 mm long, length of thread 100 mm, see Drawing No. K31-09072.
17	01110208 (1010110208)		Ditto as Item 7, but M 16, 500 mm long, length of thread 150 mm, see Drawing No. K31-09072.
18	01110209 (1010110209)		Ditto as Item 7, but M 16, 600 mm long, length of thread 200 mm.
19	01110300 (1010110300)		Ditto as Item 7, but M 20, 350 mm long, length of thread 100 mm.
20	01110301 (1010110301)		Ditto as Item 7, but M 20, 400 mm long, length of thread 100 mm, see Drawing No. SBI-015/22017.
21	01110302 (1010110302)		Ditto as Item 7, but M 20, 450 mm long, length of thread 100 mm, see Drawing No. SBI-015/22017.
22	01110303 (1010110303)		Ditto as Item 7, but M 20, 550 mm long, length of thread 150 mm, see Drawing No. SBI-015/22017.
23	01110400 (1010110400)		Bolt, machine, of mild steel, hexagon head, similar to DIN 601, M 16, 75 mm long, length of thread 75 mm; complete with one (1) hexagon nut, one (1) lock nut, and two (2) round washers, similar to DIN 555, DIN 936, and DIN 126 respectively; see Drawing No. SA2-015/39019.



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Item	PEA Material No.	Quantity	Description
24	01110401 (1010110401)		Bolt, machine, of mild steel, hexagon head, similar to DIN 601. M 16, 550 mm long, length of thread 150 mm; complete with one (1) hexagon nut, one (1) lock nut, and two (2) round washers, similar to DIN 555, DIN 936, and DIN 126 respectively; see Drawing No. S 01-015/18035 .
25	01110402 (1010110402)		Ditto as Item 24, but M 16, 600 mm long, length of thread 150 mm, see Drawing No. S01-015/18035 .
26	01110403 (1010110403)		Ditto as Item 24, but M 16, 650 mm long, length of thread 150 mm, see Drawing No. SA2-015/39019 .
27	01120000 (1010120000)		Bolt, double arming, full thread, of mild steel, M 16, 400 mm long, complete with four (4) square nuts, see Drawing No. K31-09069
28	01120001 (1010120001)		Ditto as Item 27, but M 16, 450 mm long, see Drawing No. K31-09069.
29	01120002 (1010120002)		Ditto as Item 27, but M 16, 500 mm long, see Drawing No. K31-09069.
30	01120003 (1010120003)		Ditto as Item 27, but M 16, 550 mm long.
31	01120004 (1010120004)		Ditto as Item 27, but M 16, 600 mm long, see Drawing No. K31-09069.
32	01120005 (1010120005)		Ditto as Item 27, but M 16, 650 mm long.
33	01130000 (1010130000)		Bolt, double arming eye, of mild steel, forged round eye having 22 mm diameter hole, M 16, 400 mm long, length of thread 350 mm; complete with three (3) square nuts, minimum breaking strength not less than 5,000 kgf; see Drawing No. S 01-015/17007 .
34	01130001 (1010130001)		Ditto as Item 33, but M 16, 450 mm long, length of thread 400 mm, see Drawing No. S 01-015/17007.

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Item	PEA Material No.	Quantity	Description
35	01130002 (1010130002)		Ditto as Item 33, but M 16, 500 mm long, length of thread 450 mm, see Drawing No. S 01-015/17007.
36	01130003 (1010130003)		Ditto as Item 33, but M 16, 600 mm long, length of thread 550 mm, see Drawing No. S 01-015/17007.
37	01130004 (1010130004)		Ditto as Item 33, but M 16, 550 mm long, length of thread 500 mm, see Drawing No. S 01-015/17007.
38	01130005 (1010130005)		Ditto as Item 33, but M 16, 650 mm long, length of thread 600 mm, see Drawing No. S 01-015/17007.
39	01140000 (1010140000)		Bolt, round eye, of mild steel, forged round eye having 22 mm diameter hole, M 16, 100 mm long, length of thread 75 mm; complete with two (2) square nuts, minimum breaking strength not less than 5,000 kgf, see Drawing No. S 01-015/19041.
40	(1010140001)		Ditto as Item 39, but M 16, 150 mm long, length of thread 100 mm, see Drawing No. SA2-015/39018 .
41	01140001 (1010140001)		Ditto as Item 39, but M 16, 200 mm long, length of thread 150 mm, see Drawing No. S 01-015/19041 .
42	01140002 (1010140002)		Ditto as Item 39, but M 16, 250 mm long, length of thread 200 mm, see Drawing No. S 01-015/19041 .
43	01140003 (1010140003)		Ditto as Item 39, but M 16, 300 mm long, length of thread 250 mm, see Drawing No. S 01-015/19041 .

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Item	PEA Material No.	Quantity	Description
44	01150000 (1010150000)		Bolt, oval eye, forged steel, M 16, 150 mm long, length of thread 100 mm, complete with one (1) square nut, minimum breaking strength not less than 6,500 kgf, see Drawing No. SBI-015/22018.
45	01150001 (1010150001)		Ditto as Item 44, but M 16, 200 mm long, length of thread 150 mm, see Drawing No. SBI-015/22018.
46	01150002 (1010150002)		Ditto as Item 44, but M 16, 350 mm long, length of thread 150 mm, see Drawing No. SBI-015/22018.
47	01150100 (1010150100)		Ditto as Item 44, but M 20, 350 mm long, length of thread 150 mm, minimum breaking strength not less than 12,000 kgf, see Drawing No. SBI-015/22019.
48	01150101 (1010150101)		Ditto as Item 44, but M 20, 450 mm long, length of thread 200 mm, minimum breaking strength not less than 12,000 kgf, see Drawing No. SBI-015/22019.
49	01160000 (1010160000)		Bolt, stubbing, full thread, of mild steel, M 24, 600 mm long, complete with four (4) square nuts and two (2) flat washers 72x72x6 mm, 26 mm diameter hole.
50	01160001 (1010160001)		Ditto as Item 49, but M 24, 800 mm long.
51	01160002 (1010160002)		Ditto as Item 49, but M 24, 1,000 mm long.
52	01160003 (1010160003)		Ditto as Item 49, but M 24, 1,250 mm long.
53	01160004 (1010160004)		Ditto as Item 49, but M 24, 1,600 mm long.
54	01180001 (1010180001)		Nut, eye, of mild steel, similar to DIN 582, forged eye 35 mm in diameter, thread for bolt M 16, minimum breaking strength not less than 5,000 kgf, see Drawing No. S 01-015/16004.
55	01180002 (1010180002)		Eyelet, according to NEMA standards or equivalent, minimum breaking strength not less than 8,320 kgf, see Drawing No. SBI-015/22028.

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Item	PEA Material No.	Quantity	Description
56	01180003 (1010180003)		Nut, eye, thimble, forged steel, thread for bolt M 16, minimum breaking strength not less than 6,500 kgf, see Drawing No. SBI-015/22029.
57	01180004 (1010180004)		Ditto as Item 56, but thread for bolt M 20, minimum breaking strength not less than 8,200 kgf, see Drawing No. SBI-015/22029.
58	01180100 (1010180100)		Washer, square, flat, of steel, according to Table 6 of TIS 258, nominal size 16 ( $18 \begin{smallmatrix} +0.7 \\ 0 \end{smallmatrix}$ mm diameter hole), 52x52x4.5 mm.
59	01180101 (1010180101)		Ditto as Item 58, but nominal size 20 ( $22 \begin{smallmatrix} +0.8 \\ 0 \end{smallmatrix}$ mm diameter hole), 62 x 62 x 6 mm.
60	01180102 (1010180102)		Ditto as Item 58, but nominal size 24 ( $26 \begin{smallmatrix} +0.8 \\ 0 \end{smallmatrix}$ mm diameter hole), 72 x 72 x 6 mm.
61	01180103 (1010180103)		Ditto as Item 58, but nominal size 12 ( $14 \begin{smallmatrix} +0.7 \\ 0 \end{smallmatrix}$ mm diameter hole), 40 x 40 x 3.2 mm.
62	01180200 (1010180200)		Washer, square, curved, of mild steel, dimensions 50x50x5 mm, 18 mm diameter hole, see Drawing No. K 31-09073.
63	01180201 (1010180201)		Ditto as Item 62, but dimensions 60 x 60 x 5 mm, 22 mm diameter hole, see Drawing No. K31-09073.
64	01180300 (1010180300)		Washer, lock, of spring steel, according to Table 1 of TIS 259, nominal size 12 ( $12.2 \begin{smallmatrix} +0.6 \\ 0 \end{smallmatrix}$ mm diameter hole), 21.5 mm maximum outside diameter, 3.0 mm minimum thick.
65	01180301 (1010180301)		Ditto as Item 64, but nominal size 16 ( $16.2 \begin{smallmatrix} +0.8 \\ 0 \end{smallmatrix}$ mm diameter hole), 28.0 mm. maximum outside diameter, 4.0 mm minimum thick.

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Item	PEA Material No.	Quantity	Description
66	01180302 (1010180302)		Ditto as Item 64, but nominal size 20 ( $20.2^{+0.8}_0$ mm diameter hole), 33.8 mm. maximum outside diameter, 5.1 mm minimum thick.
67	01180303 (1010180303)		Ditto as Item 64, but nominal size 24 ( $24.5^{+1.0}_0$ mm diameter hole), 40.3 mm. maximum outside diameter, 5.9 mm minimum thick.
68	01050000 (1010050000)		Pipe, steel, nominal size 20 ( $26.9 \pm 0.4$ mm outside diameter), wall thickness not less than 2.27 mm, 100 mm long, without thread on both ends, hot-dip galvanized not less than 65 $\mu$ m ; or pipe from galvanized steel pipe, Type 2, in accordance with TIS 277 shall be accepted.
69	01050002 (1010050002)		Ditto as Item 68, but 150 mm long.
<del>70</del>	<del>01000100 (1010000100)</del>		<del>Alley arm, of channel steel, 100x50x5 mm, 2,350 mm long. see Drawing No. SB1-015/31004. ให้ใช้สเปค RHDW-004/2550 Item 1 และ</del>
71	00120004 (1000120004)		Crossarm, of channel steel, 150x75x9 mm, 3,000 mm long, see Drawing No. SA2-015/39005.
72	01000400 (1010000400)		Channel steel beam, according to Table 4 of TIS 1227, with : Nominal size : 200 x 80 x 7.5 mm Length : 1,000 mm Punched holes/slots, and fabricated as shown in Drawing No. SA2-015/23010.
73	01010000 (1010010000)		Angle steel beam, according to Table 2 of TIS 1227, with : Nominal size : 65x65x6 mm Length : 1,000 mm Punched holes/slots, and fabricated as shown in Drawing No. SA2-015/23009.

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Item	PEA Material No.	Quantity	Description
74	01030102 <i>(1010030102)</i>		Plate, steel double arming, 12x100 mm, 760 mm long, see Drawing No. SA2-015/28002.
75	03140011 <i>(1030140011)</i>	<i>3000</i>	Thimble clevis, pressed steel, minimum breaking strength not less than 900 kgf, see Drawing No. S01-015/19058.
76	03140013 <i>(1030140013)</i>		Plate spacer, of mild steel, minimum ultimate strength not less than 16,500 kgf, see Drawing No. SB1-015/22042.
77	01030002 <i>(1010030002)</i>		Plate, steel, 6x100 mm, 450 mm long, see Drawing No. SB1-015/22015.
78	01030100 <i>(1010030100)</i>		Plate, steel, double arming, 12x100 mm, 650 mm long, see Drawing No. SB1-015/22016.
79	02440102 <i>(1020440102)</i>		Clamp, guy, triple bolt, suitable for steel stranded wire 50-95 mm <sup>2</sup> , see Drawing No. SA2-015/23024.
80	02440103 <i>(1020440103)</i>		Link for cable spacer, 9.0 mm diameter steel round bar, see Drawing No. SA2-015/23024.
81	02440112 <i>(1020440112)</i>		Bracket, of channel steel, 100x50x5 mm, for aerial cable corner support, see Drawing No. SB3-015/64004.
82	01000106 <i>(1010000106)</i>		Crossarm, of channel steel, according to Table 4 of TIS 1227, with : Nominal size : 100 x 50 x 5 mm Length : 2,500 mm Punched holes, and fabricated as shown in Drawing No. SA2-015/39025.

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Item	PEA Material No.	Quantity	Description
83	01000201 (1010000201)		Ditto as Item 82, but Nominal size : 125 x 65 x 6 mm Length : 3,000 mm Punched holes, and fabricated as shown in Drawing No. SA4-015/39025.
84	01110404 (1010110404)		Bolt, machine, of mild steel, hexagon head, similar to DIN 601, M 16, 50 mm long, length of thread 40 mm ; complete with one (1) hexagon nut, and two (2) round washers, similar to DIN 555, and DIN 126 respectively; see Drawing No. SA2-015/40001.
85	02200106 (1020200106)		Vibration damper, dumbbells type (stockbridge), for overhead ground wire diameter range 9.0 - 10.0 mm (Steel stranded wire 50 mm <sup>2</sup> ), approximate total weight 1.6 kg (3.5 pounds).
86	02200107 (1020200107)		Vibration damper, dumbbells type (stockbridge), for conductor diameter range 27.0 - 29.0 mm (ACSR conductor 380/50 mm <sup>2</sup> ), approximate total weight 7.3 kg (16 pounds).
			<p><b>Note :</b></p> <ol style="list-style-type: none"> <li>1. Pitches of steel bolts and nuts shall be according to the attached "Nominal Thread Diameters and Pitches of Steel Bolts and Nuts".</li> <li>2. Dimensions and tolerances of M 16 machine bolts shall be as specified in the attached "Dimensions and Tolerances of M 16 Machine Bolts".</li> <li>3. ONLY threads of steel bolt and nut shall meet acceptance tests specified in the attached "Acceptance Tests for Threads of Steel Bolt, Anchor Rod, and Nut".</li> </ol>

Invitation to Bid No.

Specification No.: RHDW-011/2556

C4 Price schedule

Manufacturer:

Trade-mark:

Country of Origin:

Bidder:

Bid No.:

Date:

Item	PEA Material No.	Catalogue No.	Description	Quantity	Unit Cost (See details & conditions attached)	Total Cost (See details & conditions attached)
1	01200001 <u>C1010200001</u>		Brace, flat, for crossarm, of flat steel 30x6x760 mm.			
2	01200002 <u>C1010200002</u>		Ditto as Item 1, but 40x6x1,000 mm.			
3	01200003 <u>C1010200003</u>		Ditto as Item 1, but 50x10x1,950 mm.			
4	01200004 <u>C1010200004</u>		Brace, alley arm, of angle steel, 40x40x5 mm, 2,120 mm long.			
5	01200005 <u>C1010200005</u>		Ditto as Item 4, but 50x50x6 mm, 2,350 mm long.			
6	01200007 <u>C1010200007</u>		Brace, for crossarm, of hot-rolled equal angle steel, 50x50x6 mm, 1,800 mm wide, 450 mm drop, hot-dip galvanized not less than 50 micrometer, see Drawing No. SBI-01S/22014			
7	01110000 <u>C1010110000</u>		Bolt, machine, M 8x 25 mm, complete with one (1) square nut.			
8	01110101 <u>C1010110101</u>		Ditto as Item 7, but M 12x 50 mm			
9	01110200 <u>C1010110200</u>		Ditto as Item 7, but M 16x130 mm			



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Item	PEA Material No.	Catalogue No.	Description	Quantity	Unit Cost (See details & conditions attached)	Total Cost (See details & conditions attached)
10	01110201 <del>C1010110201</del>		Ditto as Item 7, but M 16x170 mm			
11	01110202 <del>C1010110202</del>		Ditto as Item 7, but M 16x200 mm			
12	01110203 <del>C1010110203</del>		Ditto as Item 7, but M 16x250 mm.			
13	01110204 <del>C1010110204</del>		Ditto as Item 7, but M 16x300 mm.			
14	01110205 <del>C1010110205</del>		Ditto as Item 7, but M 16x350 mm.			
15	01110206 <del>C1010110206</del>		Ditto as Item 7, but M 16x400 mm.			
16	01110207 <del>C1010110207</del>		Ditto as Item 7, but M 16x450 mm.			
17	01110208 <del>C1010110208</del>		Ditto as Item 7, but M 16x500 mm.			
18	01110209 <del>C1010110209</del>		Ditto as Item 7, but M 16x600 mm.			
19	01110300 <del>C1010110300</del>		Ditto as Item 7, but M 20x350 mm.			
20	01110301 <del>C1010110301</del>		Ditto as Item 7, but M 20x400 mm.			

Manufacturer :  
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 C4 Price schedule

Item	PEA Material No.	Catalogue No.	Description	Quantity	Unit Cost (See details & conditions attached)	Total Cost (See details & conditions attached)
21	01110302 C1010110302		Ditto as Item 7, but M 20x450 mm.			
22	01110303 C1010110303		Ditto as Item 7, but M 20x550 mm.			
23	01110400 C1010110400		Bolt, machine, hexagon head, M 16x75 mm; complete with one (1) hexagon nut, one (1) lock nut, and two (2) round washers.			
24	01110401 C1010110401		Bolt, machine, hexagon head, M 16x550 mm; complete with one (1) hexagon nut, one (1) lock nut, and two (2) round washers.			
25	01110402 C1010110402		Ditto as Item 24, but M 16x600 mm.			
26	01110403 C1010110403		Ditto as Item 24, but M 16x650 mm.			
27	01120000 C1010120000		Bolt, double arming, M 16x400 mm, complete with four (4) square nuts.			
28	01120001 C1010120001		Ditto as Item 27, but M 16x450 mm.			
29	01120002 C1010120002		Ditto as Item 27, but M 16x500 mm.			
30	01120003 C1010120003		Ditto as Item 27, but M 16x550 mm.			

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C4 Price schedule

Manufacturer :

Trade-mark :

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Date :

Item	PEA Material No.	Catalogue No.	Description	Quantity	Unit Cost (See details & conditions attached)	Total Cost (See details & conditions attached)
31	01120004 <u>C1010120004</u>		Ditto as Item 27, but M 16x600 mm.			
32	01120005 <u>C1010120005</u>		Ditto as Item 27, but M 16x650 mm.			
33	01130000 <u>C1010130000</u>		Bolt, double arming forged round eye, 16x400 mm, complete with three (3) square nuts, minimum breaking strength .....			
			kgf.			
34	01130001 <u>C1010130001</u>		Ditto as Item 33, but M 16x450 mm, minimum breaking strength .....			
			kgf.			
35	01130002 <u>C1010130002</u>		Ditto as Item 33, but M 16x500 mm, minimum breaking strength .....			
			kgf.			
36	01130003 <u>C1010130003</u>		Ditto as Item 33, but M 16x600 mm, minimum breaking strength .....			
			kgf.			

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C4 Price schedule

Manufacturer :

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Bid No. :

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tem	PEA Material No.	Catalogue No.	Description	Quantity	Unit Cost (See details & conditions attached)	Total Cost (See details & conditions attached)
37	01130004 C1010130004		Ditto as Item 33, but M 16x550 mm, minimum breaking strength ..... kgf.			
38	01130005 C1010130005		Ditto as Item 33, but M 16x650 mm, minimum breaking strength ..... kgf.			
39	01140000 C1010140000		Bolt, forged round eye, M 16x100 mm, complete with two (2) square nuts, minimum breaking strength ..... kgf.			
40	C1010140001		Ditto as Item 39, but M 16x150 mm, minimum breaking strength ..... kgf.			
41	01140001 C1010140001		Ditto as Item 39, but M 16x200 mm, minimum breaking strength ..... kgf.			
42	01140002 C1010140002		Ditto as Item 39, but M 16x250 mm, minimum breaking strength ..... kgf.			