

Invitation to Bid No.:ต.3กบญ.(จช.)e-bidding009/2562

C Material, equipment, and specifications for CONNECTORS AND ELECTRICAL CONTACT COMPOUND

C1 General material and packing instructions

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

1a Scope

These specifications cover mechanical, compression and wedge type connectors to connect conductors, and electrical contact compound.

1b Standards

The connectors shall be manufactured and tested in accordance with the latest IEEE, ANSI, EEL-NEMA, ASTM, VDE Regulations and DIN, or equivalent; unless otherwise specified in these specifications.

The bodies of connectors shall be of aluminium-alloy according to manufacturer's standards, unless otherwise specified in these specifications.

1c Principal requirement

1c.1 General

The connectors shall be suitable for connecting stranded and/or solid conductors according to DIN, TIS, or equivalent; unless otherwise specified in these specifications.

1c.2 Bolted type connector

For the purpose of against self-loosening, each bolt shall be furnished with at least of one (1) locknut. The bolts shall be designed for single-wrench installation. Each U-bolt is counted as two (2) bolts. The bolts shall be tightened to torque levels according to these shown in the table below or according to manufacturer's recommendation; the technical details of tightening torque levels shall be submitted on request.

All ferrous materials shall be hot-dip galvanized after manufacturing; except bolts, lockwashers, washers, and nuts up to M6 shall be electro galvanized; according to the relevant standards or having the thickness or zinc coating shown in the table below.

Sizes of Bolts, Lockwashers, Washers, and Nuts	Tightening Torque Level of Galvanized Steel Bolts kgf-m	Minimum Thickness of Zinc Coating mm.
M 6 (1/4")	-	0.010
M 8 (5/16")	2.0	0.040
M 10 (3/8")	2.7	0.040
M 12 (1/2")	5.5	0.040
M 14 (9/16")	6.5	0.040
M 16 (5/8")	7.5	0.040
M 20 (3/4")	11.0	0.045

1c.3 Compression type connector

Full tension sleeves and partial tension sleeves shall withstand at least 90% and 40%, respectively, of the minimum breaking strength of the conductors for which they are designed. Each sleeve shall be prefilled with electrical contact compound and closed both ends by plastic caps.

Conductor barrel of each terminal lug shall be prefilled with electrical contact compound and closed by a plastic cap.

Tap connectors shall be prefilled with electrical contact compound and packed in suitable packages, one (1) or two (2) pieces per package.

1c.4 Compression deadend assembly set

The aluminium body and aluminium jumper terminal shall accommodate aluminium conductor which is according to TIS; and the conductor barrel shall be prefilled with electrical contact compound and closed by a plastic cap.

1c.5 Wedge type connector

The wedge type connector shall consists of C-shaped member and wedge, and made of aluminium alloys which shall be described.

The wedge type connector shall pass the current cycle tests Class A (500 cycles) in accordance with the latest EEI-TDJ-162/NEMA C3, ANSI C 119.4 or equivalent.

Bidders who have never submitted the test reports of current cycle tests shall submit either prior to receipt of bids or within fifteen (15) days of the bid closing date, for saving bid consideration time, the Item without submitting the report shall be rejected.

1c.6 Marking

Each connector shall be marked, on the body, at least as follows:

- (1) Applicable conductor type and size.
- (2) Manufacturer's symbol.
- (3) Marks to press, for compression type only.
- (4) Words "FULL TENSION" and "PARTIAL TENSION", on full tension sleeves and partial tension sleeves, respectively.

Except for compression type tap connectors for main line size less than 10 mm^2 (not including size 10 mm^2), if the applicable conductor type and size cannot be marked on the bodies, the marks shall be marked on individual packages.

1c.7 Sample

Free samples shall be supplied on request. The samples will not be returned.

1d Packing

Each item shall be packed separately in suitable packages in sets or pieces of 1, 2, 100, 200, 250, or 300. Packages of same item may be packed together in suitable cases.

1e Test and Test reports

The proposed connectors shall have successfully passed the temperature rise test and hardness test. The temperature rise test have to use maximum and minimum conductors for the designed connectors.

The test shall be conducted at the acknowledged reputable independent testing laboratories.

Bidders have to submit the test reports with the bid. The item offered without submitting the test reports may be rejected.

The above test may be omitted if record of test made on identical ones can be supplied.

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.

Specifications of materials used for the component parts (body, bolts, nuts, screws, lockwashers, washers, etc.).

Surface finishing of the component parts.

Nominal cross-sectional area in mm² of conductor for which the connector is designed.

Diameter in mm of conductor for which the connector is designed.

Material of conductors for which the connector can be used (Al, ACSR, Cu, etc.).

Recommended tightening torques for bolts in kgf-m.

Weight in kg/100 sets or pieces.

2b It shall be advised whether the connectors should be protected by armour tape or preformed line guards, etc.

2c For each item offered, a drawing with dimensions in mm and marking details shall be submitted with the bid. For compression type connector, a drawing with the dimensions including inside and outside diameters and marking details shall be submitted.

2d Number of aluminium-alloy copper-alloy, and/or the chemical compositions of the bodies of connectors.

2e Packing details

Packing method.

Number of sets or pieces in each package (maximum 300 sets or pieces in one package)

Principal dimensions of each package in cm.

Volume of each package in m³.

Gross weight of each package in 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.

Principal dimensions of each case in cm.

Volume of each case in m³.

Gross weight of each case in kg.

Number of cases.



C3 Schedule of detailed requirement

Invitation to Bid No.: ต.3กปญ.(จช.)e-bidding009/2562

Item	PEA Material No.	Quantity	Description
1	1020320005	10,553 pc(s)	Connector, compression tap, H-type, connection of main aluminium conductor to tap copper conductor, see Drawing No. SA2-015/25001, with : Main : diameter range of 6.95 mm to 8.33 mm (size 35 mm ² to 50 mm ²) Tap : diameter range of 3.12 mm to 4.05 mm (size 6 mm ² to 10 mm ²)
2	1020320006	86,511 pc(s)	Connector, compression tap, H-type, connection of main aluminium conductor to tap copper conductor, see Drawing No. SA2-015/25001, with : Main : diameter range of 9.73 mm to 11.45 mm (size 70 mm ² to 95 mm ²) Tap : diameter range of 3.12 mm to 4.05 mm (size 6 mm ² to 10 mm ²)
3	1020320004	140,682 pc(s)	Connector, compression tap, H-type, connection of main aluminium conductor to tap copper conductor, see Drawing No. SA2-015/25001, with : Main : diameter range of 9.73 mm to 11.45 mm (size 70 mm ² to 95 mm ²) Tap : diameter range of 5.10 mm to 7.56 mm (size 16 mm ² to 35 mm ²)
4	1020320000	pc(s)	Connector, compression tap, H-type, connection of main aluminium conductor to tap copper conductor and main aluminium conductor to tap aluminium conductor, see Drawing No. SA2-015/25001, with : Main : diameter range of 3.57 mm to 4.50 mm (size 10 mm ² to 16 mm ²) Tap : diameter range of 2.25 mm to 3.57 mm (size 4 mm ² to 10 mm ²)
5	1020320001	8,069 pc(s)	Connector, compression tap, H-type, connection of main aluminium conductor to tap copper conductor and main aluminium conductor to tap aluminium conductor, see Drawing No. SA2-015/25001, with : Main : diameter range of 5.90 mm to 9.06 mm (size 25 mm ² to 50 mm ²) Tap : diameter range of 1.78 mm to 2.76 mm (size 2.5 mm ² to 6 mm ²)
	III		



C3 Schedule of detailed requirement

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Item	PEA Material No.	Quantity	Description
6	1020320002	72,299 pc(s)	<p>Connector, compression tap, H-type, connection of main aluminium conductor to tap copper conductor and main aluminium conductor to tap aluminium conductor, see Drawing No. SA2-015/25001, with :</p> <p>Main : diameter range of 5.90 mm to 9.06 mm (size 25 mm² to 50 mm²)</p> <p>Tap : diameter range of 4.50 mm to 7.56 mm (size 16 mm² to 35 mm²)</p>
7	1020320003	27,544 pc(s)	<p>Connector, compression tap, H-type, connection of main aluminium conductor to tap copper conductor and main aluminium conductor to tap aluminium conductor, see Drawing No. SA2-015/25001, with :</p> <p>Main : diameter range of 8.33 mm to 12.60 mm (size 50 mm² to 95 mm²)</p> <p>Tap : diameter range of 8.33 mm to 12.60 mm (size 50 mm² to 95 mm²)</p>
			<p><u>Note :</u></p> <ol style="list-style-type: none"> 1. Enclosed Drawing No. SA2-015/25001. 2. The bidder has to supply five (5) samples, within fifteen (15) days, counted from the Committee's request. <p>The sample will not be returned</p>
III			

Invitation to Bid No. : ต.3กบญ.(จช.)e-bidding009/2562

Specification No. : RCBL-026/2560

C3 Schedule of detailed requirement

Item	PEA Material No	Quantity	Description
			<p>การไฟฟ้าส่วนภูมิภาคจะพิจารณาจัดซื้อ/จัดจ้างพัสดุที่ผลิตในประเทศไทย ทั้งนี้หากผู้เสนอราคาพัสดุที่ผลิตในประเทศไทย มีรายละเอียดคุณลักษณะเฉพาะไม่เป็นไปตามข้อกำหนดของการไฟฟ้าส่วนภูมิภาค หรือไม่มีผู้เสนอพัสดุที่ผลิตในประเทศไทย การไฟฟ้าส่วนภูมิภาคจะพิจารณาจัดซื้อ/จัดจ้างพัสดุที่ผลิตจากต่างประเทศต่อไป</p> <p>พัสดุที่ผลิตในประเทศไทย หมายความว่าถึง ผลิตภัณฑ์ที่ผลิตสำเร็จรูปแล้วโดยสถานที่ผลิตตั้งอยู่ในประเทศไทย</p>



PROVINCIAL ELECTRICITY AUTHORITY

TECHNICAL SPECIFICATION DIVISION

Specification No.: RCBL-026/2560 : H - TYPE COMPRESSION TAP CONNECTOR

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C4 Price schedule

Invitation to Bid No.: ต.3กบญ.(จช.)e-bidding009/2562

Manufacturer :

Country of origin :

Trade-mark :

Item	PEA Material No.	Catalogue No.	Description	Quantity	Unit Cost (See details & conditions attached)	Total Cost (See details & conditions attached)
1	1020320005		Connector, compression tap, H-type, connection of main aluminium conductor to tap copper conductor, see Drawing No. SA2-015/25001, with : Main : diameter range of mm to mm. Tap : diameter range of mm to mm.	10,553 pc(s)		
2	1020320006		Connector, compression tap, H-type, connection of main aluminium conductor to tap copper conductor, see Drawing No. SA2-015/25001, with : Main : diameter range of mm to mm. Tap : diameter range of mm to mm.	86,511 pc(s)		
3	1020320004		Connector, compression tap, H-type, connection of main aluminium conductor to tap copper conductor, see Drawing No. SA2-015/25001, with : Main : diameter range of mm to mm. Tap : diameter range of mm to mm.	140,682 pc(s)		
	III					



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TECHNICAL SPECIFICATION DIVISION

Specification No.: RCBL-026/2560 : H - TYPE COMPRESSION TAP CONNECTOR

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C4 Price schedule

Invitation to Bid No.: ต.3กบญ.(จช.)e-bidding009/2562

Manufacturer :

Country of origin :

Trade-mark :

Item	PEA Material No.	Catalogue No.	Description	Quantity	Unit Cost (See details & conditions attached)	Total Cost (See details & conditions attached)
4	1020320000		Connector, compression tap, H-type, connection of main aluminium conductor to tap copper conductor and main aluminium conductor to tap aluminium conductor, see Drawing No. SA2-015/25001, with : Main : diameter range of mm to mm. Tap : diameter range of mm to mm.	pc(s)		
5	1020320001		Connector, compression tap, H-type, connection of main aluminium conductor to tap copper conductor and main aluminium conductor to tap aluminium conductor, see Drawing No. SA2-015/25001, with : Main : diameter range of mm to mm. Tap : diameter range of mm to mm.	8,069 pc(s)		
6	1020320002		Connector, compression tap, H-type, connection of main aluminium conductor to tap copper conductor and main aluminium conductor to tap aluminium conductor, see Drawing No. SA2-015/25001, with : Main : diameter range of mm to mm. Tap : diameter range of mm to mm.	72,299 pc(s)		
III						



การไฟฟ้าส่วนภูมิภาค
PROVINCIAL ELECTRICITY AUTHORITY

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TECHNICAL SPECIFICATION DIVISION

Specification No.: RCBL-026/2560 : H - TYPE COMPRESSION TAP CONNECTOR

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C4 Price schedule

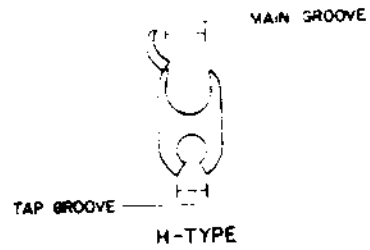
Invitation to Bid No.: ต.3กบญ.(จช.)e-bidding009/2562

Manufacturer :

Country of origin :

Trade-mark :

Item	PEA Material No.	Catalogue No.	Description	Quantity	Unit Cost (See details & conditions attached)	Total Cost (See details & conditions attached)
7	1020320003		<p>Connector, compression tap, H-type, connection of main aluminium conductor to tap copper conductor and main aluminium conductor to tap aluminium conductor, see Drawing No. SA2-015/25001, with :</p> <p>Main : diameter range of mm to mm. Tap : diameter range of mm to mm.</p> <p>หมายเหตุ - กำหนดจุดจัดส่งที่ แผนกคลังพัสดุ การไฟฟ้าส่วนภูมิภาคจังหวัดยะลา - กำหนดส่งมอบส่งมอบงวดเดียวภายใน 60 วัน นับถัดจากวันที่ลงนามในสัญญา และภายในงวดสามารถทยอยจัดส่งได้</p>	27,544 pc(s)		
	III					



PEA MATERIAL NO	CONDUCTOR RANGE		SIMILAR TO (HARDNESS OF 6-B SHORE HARDNESS):								QUANTITY PER PACKAGE
	MAIN SIZES (mm ²)	TAP SIZES (mm ²)	BURNDY		KEARNEY		HOMAC		PENN-UNION		
			CATALOGUE NO	DIE SIZE	CATALOGUE NO.	DIE SIZE	CATALOGUE NO.	DIE SIZE	CATALOGUE NO.	DIE SIZE	
0754	10 - 16	4 - 10	YPC2A8U	BG	421 - 82	5/8"	UB 214	5/8"	-	-	1 OR 2
0753	25 - 50	2.5 - 6	-	-	424 - 82	0	OB 2014	0	KO-R24	0	1
0752	25 - 50	16 - 35	YHO-150	0	508 - 82	0	OB 103	0	KO-RO8	0	1
0751	70 - 95	16 - 35	YHD-200	D3	502 - 82	0	DB 202	0	KD-RO2	0	1
0750	50 - 95	50 - 95	YHD-300	D3	504 - 82	0	DB 2020	0	KD-RO4	0	1
—	35 - 50	6 - 10	YPC26R 8U	0	428 - 82	0	—	—	KO-R24	0	1
—	70 - 95	6 - 10	YPC26R 8U	0	—	—	—	—	—	—	1

NOTES

- EACH CONNECTOR GROOVE SHALL BE PRE-FILLED WITH ELECTRICAL CONTACT COMPOUND.
- EACH CONNECTOR SHALL BE MARKED WITH APPLICABLE CONDUCTOR TYPE AND SIZE, MARKS TO PRESS, AND MANUFACTURER'S SYMBOL.
- DIMENSIONS AND DESIGNS OF CONNECTORS ARE IN ACCORDANCE WITH MANUFACTURER'S STANDARDS.
- THE CONNECTORS SHALL BE INSTALLED WITH THE FOLLOWING TOOLS:
 - BURNDY TYPE MD 6, OR
 - KEARNEY CAT. NO 0-52, OR
 - HOMAC TYPE UT 5, OR
 - EQUIVALENT.

PRELIMINARY

กองวิศวกรรมไฟฟ้าและเครื่องกล ฝ่ายวิศวกรรม	การไฟฟ้าส่วนภูมิภาค	ใช้ทดแทน ถูกแทนโดยแบบ เดือนสิงหาคม 15 พ.ศ. 25 แทนแบบวันที่ 17 พ.ศ. 2538 มีดังนี้ หากทางด้าน
ผู้เขียน <i>สมชาย ธรรม</i> ผู้ตรวจ <i>สมชาย ธรรม</i> หัวหน้าแผนก <i>สมชาย ธรรม</i> หัวหน้ากอง <i>สมชาย ธรรม</i> ผู้อำนวยการฝ่าย	ผู้ตรวจ	แบบเลขที่ SA2-015/25001
รองผู้อำนวยการฝ่ายเทคนิค	COMPRESSION TAP CONNECTOR, H-TYPE	แผ่นที่ 1 ของจำนวน 1 แผ่น