

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

**C Material, equipment, and specifications for High-voltage insulating tape, self-fusing EPR based**

**C1 General material and packing instructions**

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

**1a Scope**

These specifications cover High-voltage insulating tape, self-fusing EPR based designed for the splicing and repair of electrical wire and cables operating at voltages up to 69 kV.

**1b Standard**

High-voltage insulating tape, self-fusing Ethylene Propylene Rubber (EPR) based shall be manufactured and tested in accordance with following standard:

American Society for Testing and Materials (ASTM):

ASTM D4388: 2013 Standard specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes

PEA also accepts High-voltage insulating tape, self-fusing EPR based manufactured and tested in accordance with the later edition of the above standards.

**1c Principal requirement**

**1c.1 Properties**

The properties of High-voltage insulating tape, self-fusing EPR based shall be in accordance with type three (3) classification of ASTM D 4388: 2013 as specified in **Table 1**.

**Table 1**

**High-voltage insulating tape, self-fusing Ethylene Propylene Rubber EPR based**

Property	Requirements	Test method
Dimension		ASTM D 4325: 2013 or later edition
- length	Not less than 9 m	
- width	19 mm ± 0.76 mm	
- thickness	0.76 mm ± 0.076 mm	
Tensile strength, min	1.7 MPa	
Elongation at break, min	700 %	
Dielectric strength, min	24 kV/mm	
Fusion-Flag 2 mm, max	Pass at 300 % elongation	

**1c.2 Aging and storage**

Tapes shall not become unduly attached to the separators (the tape shall not be fused itself because of storage) within 2 years counted from the delivery date.

If the tapes become unduly attached to the separators the contractor has to take responsibilities by replacing the new ones for the whole lot within 30 days after receiving the document of PEA.

**1c.3 Sample**

Samples shall be supplied on request. In case the samples are requested by PEA, The bidders have to supply samples of each item of the electrical tapes within fifteen (15) calendar days. The bidders who cannot supply the requested samples shall be rejected.

The samples shall not be returned.

**1d Tests and test reports**

**1d.1 Type test**

The type test of the High-voltage insulating tape, self-fusing EPR based shall be passed all items as specified in **Table 1** and the tests shall be conducted by the acknowledged independent testing laboratories/institutes as follows:

- (1) Independent laboratories/institutes which are members of the Short-circuit Testing Liaison (STL) or independent laboratories/institutes which are accredited according to TIS 17025 or ISO/IEC 17025 with the scope of accreditation covered the relevant test items, standards and equipment. The certification and scope of accreditation of the independent laboratories/institutes shall be submitted with the bid for consideration.
- (2) Thailand's national laboratories, institutes, universities and electric utilities, as follow:
  - National Metal and Materials Technology Center (MTEC)
  - Electrical and Electronic Products Testing Center (PTEC)
  - Thai Industrial Standards Institute (TISI)
  - Electrical and Electronics Institute (EEI)
  - Department of Science Service (DSS)
  - Testing Laboratory, Electrical Engineering Department, Faculty of Engineering, Chulalongkorn University
  - Electricity Generating Authority of Thailand (EGAT)
  - Metropolitan Electricity Authority (MEA)
  - Provincial Electricity Authority (PEA)
  - Other laboratories, institutes, universities or electric utilities approved by PEA

The type test report done by the laboratories in Thailand or local manufacturers shall be valid within five (5) years counted from the issued date in the test report to the bid closing date.

The type test report shall also include the necessary data as following:

- 1 The catalogue number / type or model
- 2 Colour's photograph of the product

The type test reports shall be submitted with the bid.

**The cost of all tests and reports shall be borne by the Bidder.**

## **1d.2 Acceptance test**

### **1d.2.1 Acceptance test procedures**

PEA's acceptance committee will inspect and randomly sampling the high-voltage insulating tape, self-fusing EPR based for testing. The number of samples shall be accordance with **Table 2**, as follows:

**Table 2**  
**Number of sample**

Number of rolls per lot	Number of sample for acceptance test
50 to 200	2
201 to 500	3
501 to 1,000	4
More than 1,001	5

PEA reserves the right to test the samples by PEA's laboratory or independent laboratory.

The test items and criteria of acceptance test shall be in accordance with **Table 1**.

All samples shall be passed the test otherwise the contract will be rejected.

**The costs of the acceptance test shall be borne by the contractor.**

## **1e Packing**

- The tape or carton shall be securely wrapped and sealed in a moisture-proof material to protect the contents.
- Package Marking - Each box shall be marked with the name of the manufacturer or trademark, nominal width, thickness, length of the tape and manufacturing date.



# PROVINCIAL ELECTRICITY AUTHORITY

## TECHNICAL SPECIFICATION DIVISION

### HIGH-VOLTAGE INSULATING TAPE, SELF-FUSING EPR BASED

Specification No.: RMIS-105/2560

Approved date: 11/08/2560

Rev. No.: -

Form No. 98-3.1

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- C2     Material and packing data shall be submitted with the bid:**
- 2a     Catalogues/technical data sheet from original manufacturer**
- 2b     Packing detail**

**Required document of technical evaluation**

Critical documents of High-voltage insulating tape, self-fusing EPR based shall be submitted with the bid.

(Please fill/check the boxes in each item)

Required technical document	Proposed technical document	Reference document (Page/Item)
1 Type test report (see <b>1d.1</b> )	<input type="checkbox"/> YES <input type="checkbox"/> No	
2 Catalogues/Technical data sheet from original manufacturer ( <b>2a</b> )	<input type="checkbox"/> YES <input type="checkbox"/> No	
3 Packing detail ( <b>2b</b> )	<input type="checkbox"/> YES <input type="checkbox"/> No	

**C3 Schedule of detailed requirement**

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

Item	PEA Material No.	Quantity	Description
1	1020180003	25,069 roll(s)	<p>High-voltage insulating tape, self-fusing EPR based shall be designed for the splicing and repair of electrical wire and cables operating at voltages up to 69 kV with:</p> <p>Length : Not less than 9 m</p> <p>Width : 19 mm ± 0.76 mm</p> <p>Thickness : 0.76 mm ± 0.076 mm</p>

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Specification No. : RMIS-105/2560

C3 Schedule of detailed requirement

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



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TECHNICAL SPECIFICATION DIVISION

Specification No.: RMIS-105/2560: HIGH-VOLTAGE INSULATING TAPE, SELF-FUSING EPR BASED

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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	1020180003		<p>High-voltage insulating tape, self-fusing, EPR based shall be designed for the splicing and repair of electrical wire and cables operating at voltage up to 69 kV with</p> <p>Length : ..... m</p> <p>Width : ..... mm</p> <p>Thickness : ..... mm</p> <p>หมายเหตุ - กำหนดจุดจัดส่งที่แผนกคลังพัสดุ การไฟฟ้าส่วนภูมิภาคจังหวัดยะลา</p> <p>- กำหนดส่งมอบงวดเดียวภายใน 60 วัน นับถัดจากวันที่ผู้ขายลงนามในสัญญา และภายในงวดสามารถทยอยจัดส่งได้</p>	25,069 roll(s)		
	II					