



**Material spec of Mica Glass Tape MI-GL Gwb 18**

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**1. General :**

**1.1 Scope**

This instruction lays down all the requirements which are made for the semi-finished product Mi/GI Gwb 18.

**1.2 Description, Definition**

Mi /GI Gwb 18 is a dry, flexible impregnable insulating material in the form of tapes 0.12 mm thick, consisting of mica paper (Muskovit), to which aromatic polyamide fibres have been added, and glass fabric backing lightly glued together. A hardener-free silicone resin serves as a binder

**1.3 Product designation**

For semi-finished	Designation text
Tape	Bd 0.12 x width-Mi/GI Gwb 18

**1.4 Dimensions**

See order

**1.5 Delivery Documents, Destination for Delivery**

See order

**1.6 Order**

The order is the summary of the particulars and regulations that apply to the delivery. BHEL reserves the right to test all the requirements listed, test material for which is included in the order. The order can contain requirements which differ from or supplement instruction (except the section 2.1 "Properties")

**1.7 Supplier's Product Designation**

Semi-finished product Mi/GI Gwb 18 must receive from the supplier a designation of quality which must be changed if alternations are made to the composition, the quality of the raw materials, the method of manufacture or other factors that could influence the technological properties of the semi-finished product.

Revision : 01

Date: 30/05/06

Distribution

Qty.

Approved :

*M. Bhakta*  
(M.BHAKTA)

TXM  
CIM  
TME

2  
2  
2

Prepared:

*(Signature)*  
(VIKAS)

Checked :

*(Signature)*  
(VIKAS)

Date:

30/05/06



**1.8 Acceptance of New Products**

Attainment of the properties listed is not in itself sufficient for the acceptance of new previously unaccepted products. Only if after particular experiments, practical service tests and if necessary, other considerations have been taken into account, it appears that the new products is acceptable and interchangeable, may we decide to convert to it.

**2 Requirements**

**2.1 Properties**

Code	Size, term	Unit	Values	Test method
90100	Thickness	mm	0.12 ± 0.02	IEC 371-2 Sec. 3 1)
01100	Composition	g/m <sup>2</sup>	32 ± 3	IEC 371-2 Section 2)
	Glass fabric			
	Mica paper			
	Binder 4)			
	Aromatic polyamide fibres		7 ± 3	IEC 371-2 Section 6.4
01150	Mass per unit area	g/m <sup>2</sup>	164 ± 10	IEC 371-2 Section 6.2
10150	Rupture strength per 1cm of tape width in machine direction	N	≥ 100	IEC 371-2 Section 7
10300	Edge tearing strength	N	≥ 12	IEC 394-2 Section 8
12120	Bending stiffness 5) in machine direction	N/cm	≤ 65	IEC 371-2 Section 10
13550	Layer bonding individual values	N/cm <sup>2</sup>	≥ 0.70	GMN 14338
	x		≥ 1.0	
46200	Permeability to air Individual values	s/100 ml	≤ 3500	ISO 3687 (ASTM D 726)
82600	Storage life <sup>6)</sup> from delivery date, in original airtight container at room temperature (< 25° C)	Months	12	
	At 0° .... 5° C		24	
	Break down voltage (BDV)	KV	Avg. = 2.0 Min. = 1.8	Avg. of 5 values

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- 1) Measured with a test pressure of 5 N on a measuring are of 0.5 cm<sup>2</sup>
- 2) Determined following extraction by quantitative manual separation
- 3) The glass fabric is size-free with a residual size content of  $\leq 0.2\%$
- 4) The binder is a hardner-free silicon resin.
- 5) Glass fabric on the tension side
- 6) Permissible storage time until expiry date(see section 2.3.4 "identification").

Note: The code numbers in section 2.1 serve as internal key and have therefore no significance for the supplier.

## 2.2 Additional Requirements

The material must not include any foreign bodies.

The tapes of widths must not stick to each other so strongly when rolled that mica paper is torn off when unrolling.

Each roll must contain one continuous length of tape. Adhesive joints within a roll are not permitted.

## 2.3 Consignment

### 2.3.1 Form of the Consignment

The mica paper must be on the outside of the roll.

- Tape in accordance with HZN 451028 P15 and P20 (width 15 and 20 mm) wound on rigid cores with an inside diameter of  $55 \pm 0.5\text{mm}$ .  
Outside diameter of the rolls 110 .... 120mm.
- Tapes in accordance with HZN 451028 P20 (width 15 and 20 mm) for processing on a special machine, on special rigid cores with an inside diameter of  $25 \pm 0.5\text{mm}$  (drawing: HLJV 5075.4)  
Outside diameter of the rolls 110 ..... 120mm

### 2.3.2 Packing

The individual shipments are to be packed so that no damage can arise during transport.

### 2.3.3 Transport

The shipments is to be made by rail or road transport in such a way that it can be unloaded easily.



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**2.3.4 Identification**

Each item of the consignment (roll, metal container, crate etc.) must be labelled securely and indelibly (e.g. with an adhesive label or an appendage) with the following details. ABB designation text of product and identification number, quantity, delivery date and expiry date. Each individual roll must show a batch number.

**2.4 Permissible Variations**

**2.4.1 Dimensions**

For thickness 0.12mm : see section 2.1 "Properties"  
For width b : tapes + 5%

**3 Reference to ABB Standards**

This specification is equivalent to ABB spec HZN02354 calling identification nos. HZN451028P....