



Ruby Mica®

ELECTRO-THERMAL INSULATION

for **High-Voltage**
Rotating Machines



Ruby Mica®

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About us

Ruby Mica Co. Ltd. was established in 1968 for manufacturing the highest quality mica-based electro-thermal insulating materials catering to diverse industrial applications globally. Armed with over 45 years of experience, we have continuously evolved in accordance to the dynamic market needs for innovative insulation solutions for the electrical industry. Our state-of-the-art, fully-integrated manufacturing facility affords us complete control over the manufacturing process, right from product conceptualization phase to micro-product developmental stage, leading to ultimate customer satisfaction.

Dedicated to Innovation and Excellence

Capitalizing on the unique electrical and thermal characteristics of natural mica, Ruby Mica has developed a special insulation system catering to the high-voltage motor and generator industry. These high-performance materials have excellent workability with dielectric and thermal properties to match. Starting from the subtle techniques of mica-taping on conductor coils to the VPI process, our products are fine-tuned to perform to exacting parameters.

We strongly believe that good ingredients make a great end-product; hence we start by manufacturing the highest-grade of mica paper ourselves; picking recommended backing-materials and laminating them using world-renowned binding resins that keep product-aging in check besides granting them a longer shelf-life.

Over the years we have emerged as a one-stop shop for complete high-voltage rotating machine insulation systems. Our status as an approved vendor to large corporates like Indian Railways (Chittaranjan Locomotive Works, Diesel Modernization Works), Bharat Heavy Electricals Limited (Bhopal & Haridwar), and others, bears strong testimony of our capability, expertise and commitment to quality. A highly-reliable product and honest pricing-policy comes as standard when you deal with us.



Polyimide Film Tape

Ruby Mica® Polyimide Film Tape is a Dupont® Kapton® film-based tape that imparts excellent dielectric and thermal-stability to the conductor-strands that ensures a long and efficient service-life. A thin layer of Kapton® film consumes minimal space while providing robust insulation.

Application

Bare conductor strand insulation of coils, as slot liners and ground-insulation in HT motors & generators.

Availability

Polyimide tapes can be slit to desired widths and lengths. A choice of self-adhesive and non-adhesive version of the product is available.

Tape roll / Folium / Wrapper

Length : 50 – 500 m

Width : 6 – 1000 mm

Thickness : 25 microns

Packing

Tapes are packed in airtight robust boxes protecting them from dirt, dust and moisture. The packaging also ensures safe transit and storage.

Storage

Self-adhesive type : 12 months at 20° C • Non-adhesive type: Unlimited at 25° C



Product Data : Film Type: 100 H

Properties	Unit	Test Value
Tensile Strength MD	MPa	332
Tensile Strength TD	MPa	333
Tensile Elongation MD	%	80
Tensile Elongation TD	%	83
L-color	-	47
Dielectric Strength	kV/mm	385

Data is based on tests performed by Ruby Mica. Users are advised to verify and ensure suitability for intended applications. The above product can be tailored according to your desired specifications.



PET Film / Mica Tape

Ruby Mica® PET / Mica Tape is a lamination of PET film and calcined muscovite mica paper. The self-adhesive version has excellent tackiness due to the presence of an uncured pressure sensitive resin on polyester film side. The LDPE film interleaving acts as a separator preventing the tape interlayers from sticking to each other. Non-adhesive version is tack-free and comes without LDPE interleaving. PM tape is available for both Class F & Class H applications.

An additional layer of PET film may also be laminated on top of mica paper. This **PMP Tape** has an increased dielectric value, better tensile strength, and easier workability.

Application

Conductor coil inter-turn insulation, and as a wrapper in main coil insulation of an induction furnace.

Availability

Tape roll / Folium / Wrapper:

Length : 50 – 250 m

Width : 6 – 1000 mm

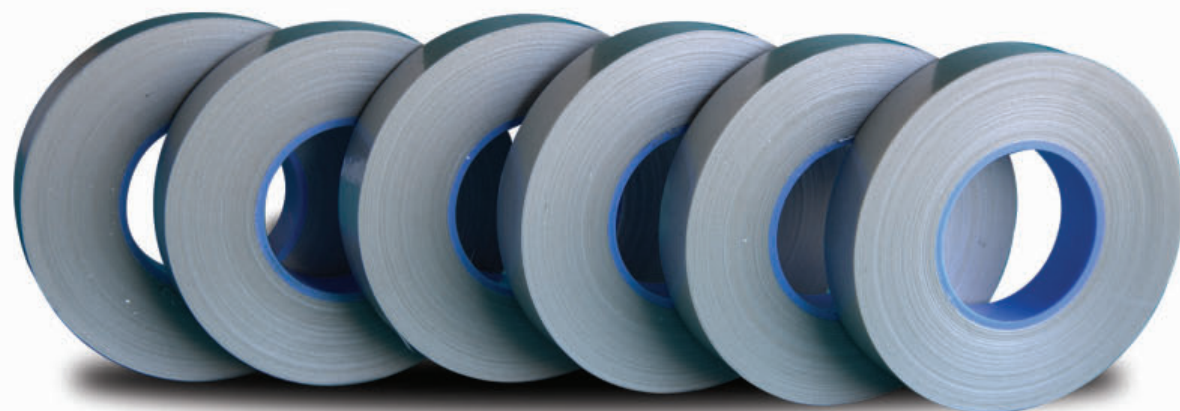
Thickness : 0.14 mm

Packing

Tapes are packed in airtight robust boxes protecting them from dirt, dust and moisture. The packaging also ensures safe transit and storage.

Storage:

6 months at $\leq 20^{\circ}\text{C}$



Product Data:

Properties	Test Method	Unit	Value
Total Substance	IEC 60371 - 2	g/m ²	222 ± 15
PET Film	IEC 60371 - 2	g/m ²	33 ± 3
Mica Content	IEC 60371 - 2	g/m ²	160 ± 15
Resin Content	IEC 60371 - 2	%	15 ± 3
Break Down Voltage	IEC 60243 - 1	kV	> 5
Tensile Strength	IEC 60371 - 2	N/cm	> 60

Data is based on tests performed by Ruby Mica. Users are advised to verify and ensure suitability for intended applications. The above product can be tailored according to your desired specifications.



Glass / Mica Tape

Ruby Mica® Glass Mica Tape is a lamination of uncalcined muscovite / phlogopite mica paper with glass cloth. High thermal-grade silicone resin is used as a bonding agent making it a Class H insulation product.

Highly-porous mica paper is selected which has excellent resin absorbing properties. **The GM Tape's** good flexibility with minimal thickness contributes to the ease in conductor taping.

An additional layer of glass cloth may also be laminated on top of mica paper. This **GMG Tape** has an increased thermal conductivity for better coil-heat dissipation and nearly doubles the tensile-strength of GM tape.

Application

Inter-turn conductor insulation suitable for resin-poor VPI insulation system of HT motors and generators, Class H insulation in transformers, induction furnace coil insulation etc.

Availability

Tape roll / Folium / Wrapper:

Length : 25 – 500 m

Width : 6 – 1000 mm

Packing

Tapes are packed in airtight robust boxes protecting them from dirt, dust and moisture. The packaging also ensures safe transit and storage.

Storage

6 months at $\leq 20^{\circ}\text{C}$ • 12 months at $\leq 5^{\circ}\text{C}$



Product Data:

Properties	Test Method	Unit	Value	Value	Value	Value	Value
Nominal Thickness	IEC 60371 - 2	mm	0.1 ± 0.01	0.13 ± 0.01	0.15 ± 0.01	0.18 ± 0.02	0.2 ± 0.02
Total Substance	IEC 60371 - 2	g/m ²	130 ± 10	165 ± 15	195 ± 15	235 ± 20	260 ± 20
Mica Paper	IEC 60371 - 2	g/m ²	80 ± 5	120 ± 9	150 ± 10	180 ± 12	200 ± 15
Glass Content	IEC 60371 - 2	g/m ²	23 ± 3	32 ± 3	32 ± 3	32 ± 3	32 ± 3
Resin Content	IEC 60371 - 2	g/m ²	15 ± 3	20 ± 3	25 ± 3	30 ± 3	35 ± 3
		%	12 - 15	12 - 15	12 - 15	12 - 15	12 - 15
Tensile Strength	IEC 60371 - 2	N/cm	≥ 75	≥ 120	≥ 120	≥ 120	≥ 120
Volatile Contents	IEC 60371 - 2	%	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Break Down Voltage	IEC 60243 - 1	kV/mm	≥ 15	≥ 15	≥ 15	≥ 15	≥ 15

Data is based on tests performed by Ruby Mica. Users are advised to verify and ensure suitability for intended applications. The above product can be tailored according to your desired specifications.



Resin-Rich Insulation System : Glass / Mica Resin-Rich Tape

Ruby Mica® Glass / Mica Resin-Rich Tape is a lamination of uncalcined muscovite mica paper with glass cloth. A thermo setting tri-functional epoxy novolac resin is used as a bonding agent making it a Class F insulation product. The tape is tack-free in cold conditions. An LDPE film interleaving is used to prevent the tape interlayers from sticking to each other during ambient temperature fluctuations.

Our resin-rich mica tapes make the coils electrically-stronger, and gives superior coil-heat dissipation capabilities. The homogeneous insulation produced after pressing and curing has a temperature-index of at least 155.

Application

Main slot wall insulation of bars / coils in HT motors and turbo-generators. Its molded rigid laminate form can also be used to insulate commutators and form electro-thermal sleeve insulation for various applications.

Availability

Tape roll / Folium / Wrapper:

Length : 25 – 500 m

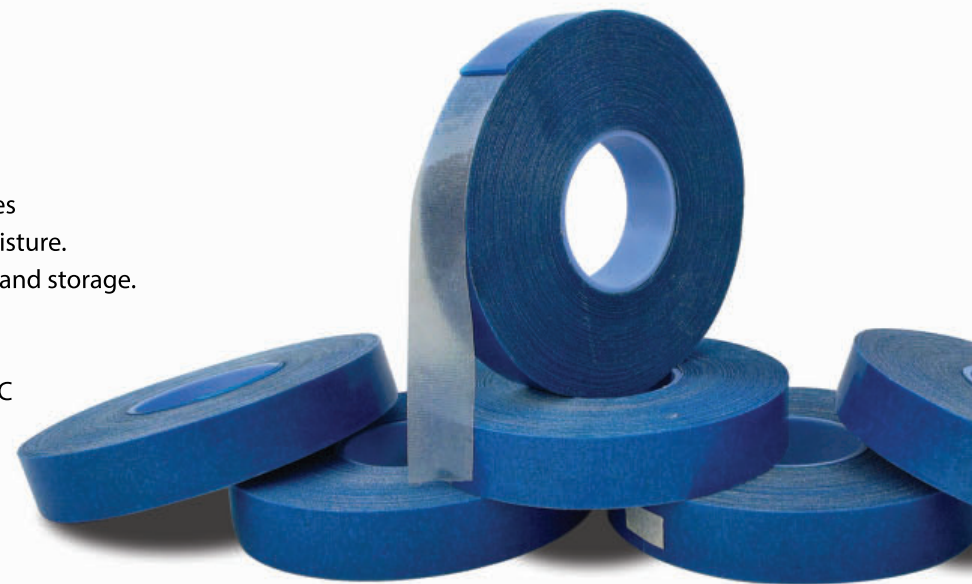
Width : 20 – 1000 mm

Packing

Tapes are packed in airtight robust boxes protecting them from dirt, dust and moisture. The packaging also ensures safe transit and storage.

Storage

6 months at $\leq 20^{\circ}\text{C}$ • 12 months at $\leq 5^{\circ}\text{C}$



Product Data:

Properties	Test Method	Unit	Value	Value	Value	Value	Value
Nominal Thickness	IEC 60371 - 2	mm	0.12 \pm 0.01	0.18 \pm 0.02	0.20 \pm 0.02	0.24 \pm 0.02	0.28 \pm 0.02
Total Substance	IEC 60371 - 2	g/m ²	165 \pm 15	265 \pm 25	310 \pm 25	350 \pm 25	460 \pm 35
Mica Paper	IEC 60371 - 2	g/m ²	75 \pm 5	120 \pm 9	150 \pm 10	180 \pm 12	250 \pm 18
Glass Content	IEC 60371 - 2	g/m ²	23 \pm 3	32 \pm 3	32 \pm 3	32 \pm 3	32 \pm 3
Resin Content	IEC 60371 - 2	g/m ²	65 \pm 10	110 \pm 10	125 \pm 15	140 \pm 15	185 \pm 20
		%	40	40	40	40	40
Tensile Strength	IEC 60371 - 2	N/cm	≥ 75	≥ 150	≥ 150	≥ 150	≥ 150
Resin Flow	IEC 60371 - 2	90° C	20 - 60	20 - 60	20 - 60	20 - 60	20 - 60
		160° C	40 - 70	40 - 70	40 - 70	40 - 70	40 - 70
Volatile Contents	IEC 60371 - 2	%	0.5 – 0.8	0.5 – 0.8	0.5 – 0.8	0.5 – 0.8	0.5 – 1.0
Breakdown Voltage (Cured laminate of 1 mm)	IEC 60243 - 1	kV/mm	> 40	> 40	> 40	> 40	> 40

Data is based on tests performed by Ruby Mica. Users are advised to verify and ensure suitability for intended applications. The above product can be tailored according to your desired specifications.



Resin-Poor Insulation System : Glass / Mica VPI Tape

Ruby Mica® Glass / Mica Silicone VPI Tape is a lamination of calcined muscovite mica paper with glass cloth. High thermal-grade silicone resin is used as a bonding agent making it a Class H insulation product. Mica paper is infused with Aramid® Fibroids to strengthen and enhance its resin-absorption capabilities making it suitable for vacuum pressure impregnation (VPI). Post-curing temperature-index is 200°C.

A choice of uncalcined highly porous muscovite mica paper with Class F epoxy resin as a binding agent is also available. This **Glass / Mica Epoxy VPI Tape** contains zinc napthenate as an accelerator.

Application

Main slot wall insulation of conductor coils and bars in HT motors and generators. It is suitable for both hand and machine-taping on coils / bars of high-voltage rotating-machines. Its outstanding resin-penetration properties make it ideal for single vacuum pressure impregnation of fully-wound stator coils.

Availability

Tape roll:

Length : 25 – 200 m

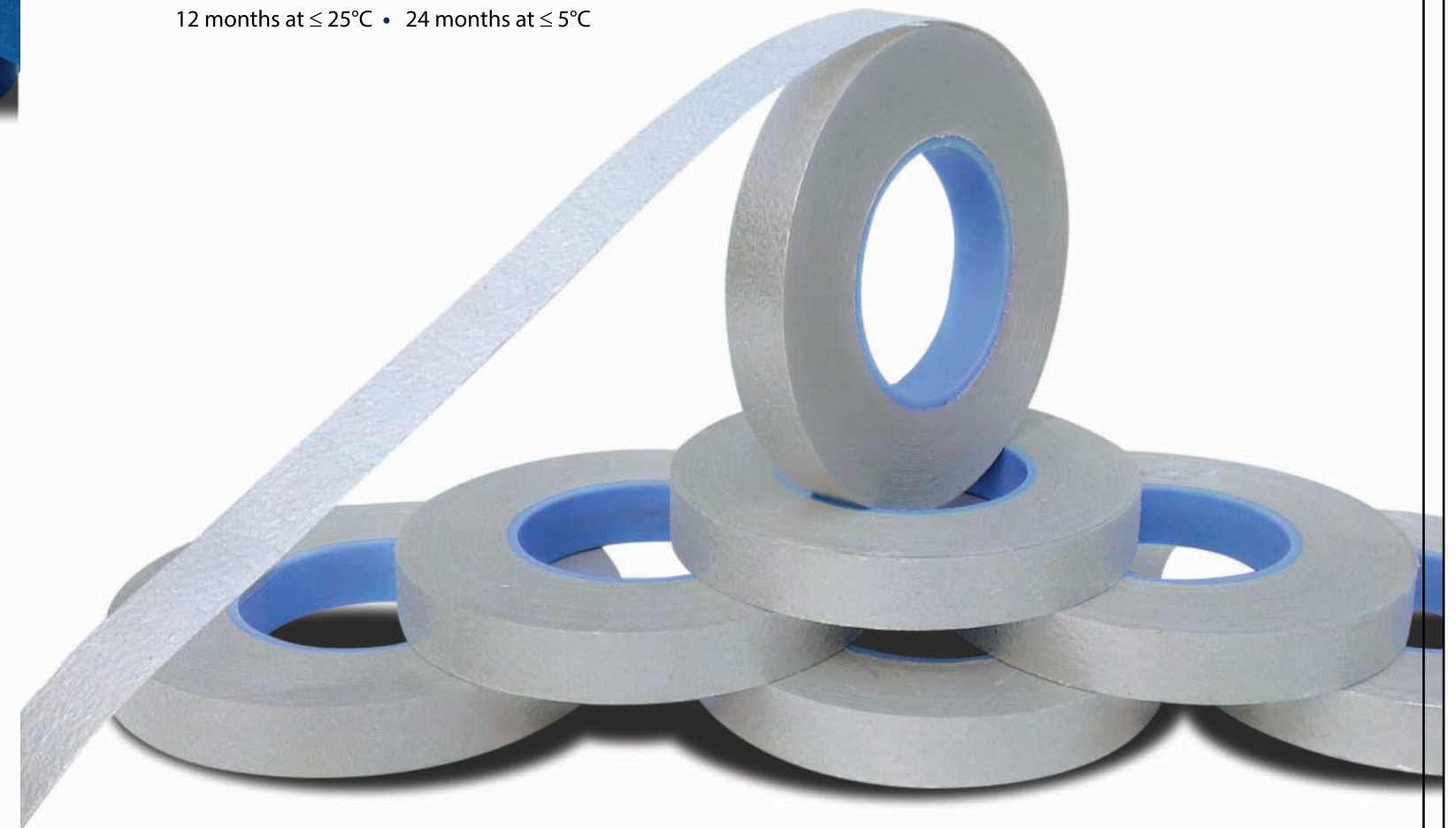
Width : 10 – 30 mm

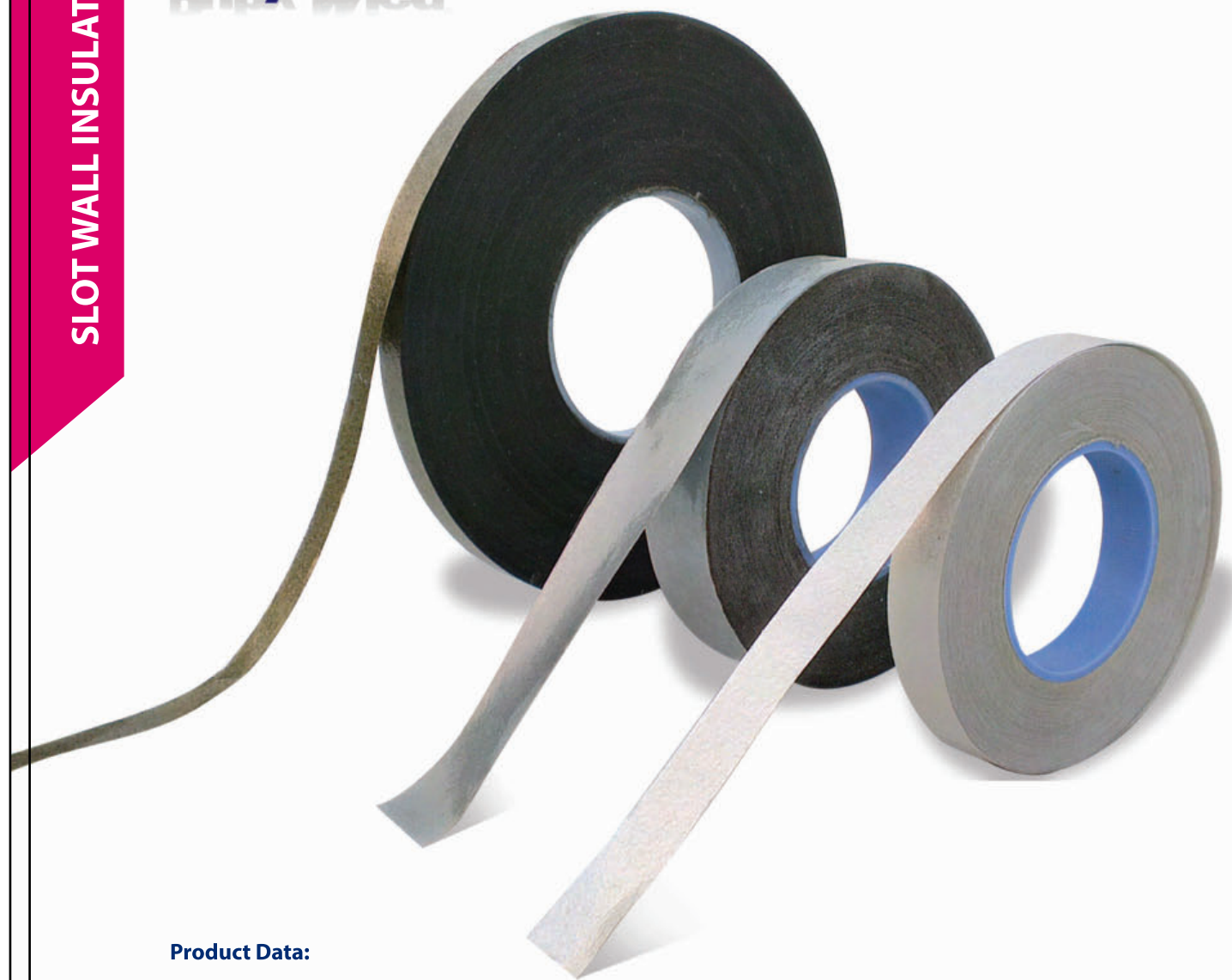
Packing

Tapes are packed in airtight robust boxes protecting them from dirt, dust and moisture. The packaging also ensures safe transit and storage.

Storage

12 months at $\leq 25^{\circ}\text{C}$ • 24 months at $\leq 5^{\circ}\text{C}$



**Product Data:**

Properties	Test Method	Unit	Value	Value
Nominal Thickness	IEC 60371 - 2	mm	0.1 ± 0.01	0.12 ± 0.01
Total Substance	IEC 60371 - 2	g/m ²	118 ± 10	164 ± 15
Mica Paper	IEC 60371 - 2	g/m ²	70 ± 5	113 ± 8
Glass Content	IEC 60371 - 2	g/m ²	33 ± 2	33 ± 2
Aramid® Fibroids	IEC 60371 - 2	g/m ²	5 ± 2	7 ± 3
Resin Content	IEC 60371 - 2	g/m ²	10 ± 2	12 ± 3
Tensile Strength	IEC 60371 - 2	N/cm	≥ 150	≥ 150
Air Porosity	IEC 60371 - 2	s/100 ml	<1600	<2500
Volatile Contents	IEC 60371 - 2	%	≤ 0.5	≤ 0.5

Data is based on tests performed by Ruby Mica. Users are advised to verify and ensure suitability for intended applications. The above product can be tailored according to your desired specifications.

Glass / Mica / PET Film Tape

Ruby Mica® Glass / Mica / PET Film Tape is a lamination of uncalcined muscovite mica paper with PET film one side and glass cloth on the other, making it a three layer high-performing mica tape. What makes this tape truly special is its unique blend of high tensile-strength imparted by glass cloth, strong electrical-resistance borrowed from the PET film, and superior thermal-endurance brought about by the use of best-quality mica there is. These tapes can withstand the rigorous overhang taping operation through sharp bends and curves without losing their insulation value. They can be supplied in two different insulation classes. Class H insulation uses only the high thermal-grade silicone resin or modified polyester resin as a binder, whereas Class F insulation uses an epoxy resin as a binder.

Less space constraints give way to a thicker insulation for the coil overhangs. An additional fourth layer of PET film may also be laminated on the glass cloth side. This **PGMP Tape** has an increased dielectric value, better tensile-strength and provides a seamless mica tape-lapping on the coils.

Application

Overhang Insulation of the coils / bars in HT motors and generators due to its high thermal, dielectric and mechanical values.

PGMP wrappers are used for ground-insulation in HT motors and generators as well.

Superior flexibility and high mechanical-strength, renders our GMP / PGMP tapes hand as well as machine-taping compatible.

Availability

Tape roll / Folium / Wrapper:

Length : 25 – 200 m

Width : 15 – 1000 mm

Packing

Tapes are packed in airtight robust boxes protecting them from dirt, dust and moisture.

The packaging also ensures safe transit and storage.

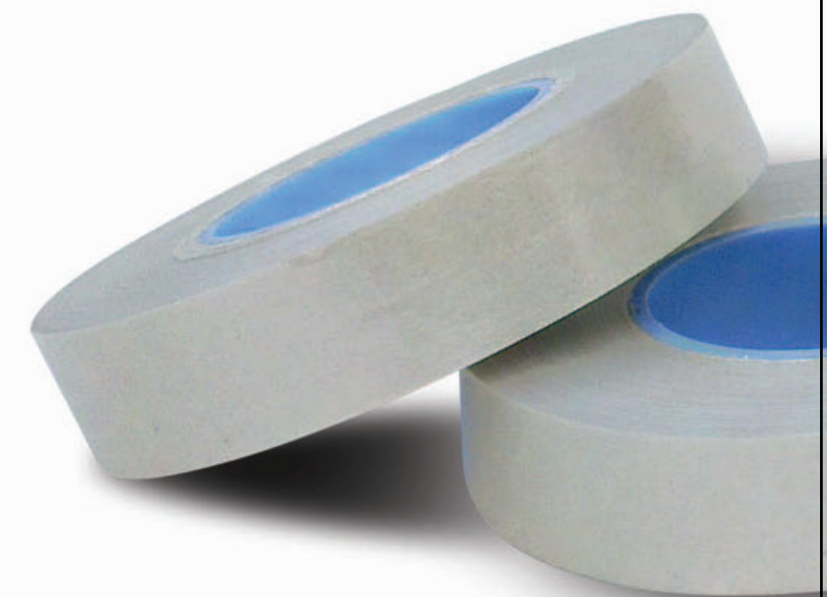
Storage

12 months at ≤ 20°C

Product Data:

Properties	Test Method	Unit	Value	Value	Value	Value
Nominal Thickness	IEC 60371 - 2	mm	0.1 ± 0.01	0.13 ± 0.01	0.16 ± 0.02	0.2 ± 0.02
Total Substance	IEC 60371 - 2	g/m ²	145 ± 10	190 ± 15	240 ± 20	300 ± 25
Mica Paper	IEC 60371 - 2	g/m ²	80 ± 5	120 ± 9	160 ± 12	200 ± 15
Glass Content	IEC 60371 - 2	g/m ²	33 ± 2	33 ± 2	23 ± 2	23 ± 2
PET Film	IEC 60371 - 2	g/m ²	17 ± 2	17 ± 2	32 ± 2	32 ± 2
Resin Content	IEC 60371 - 2	g/m ²	15 ± 2	20 ± 3	25 ± 5	30 ± 5
Tensile Strength	IEC 60371 - 2	N/cm	≥ 150	≥ 120	≥ 120	≥ 120
Breakdown Voltage	IEC 60243 - 1	Kv	> 4	> 6	> 6	> 6
Volatile Contents	IEC 60371 - 2	%	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5

Data is based on tests performed by Ruby Mica. Users are advised to verify and ensure suitability for intended applications. The above product can be tailored according to your desired specifications.





Glass / Micanite / PET Film Tape

Ruby Mica® Glass / Micanite / PET Film Tape is a lamination of single-layer high-quality muscovite natural mica splitting with PET film on one side and glass cloth on the other, bonded together using an isophthalate alkyd varnish. Due to the presence of mica in its natural form, this tape has high resilience, flexibility and impact-resistant properties.

Application

Inter-turn and main insulation on end-windings of hydro-generators and motors with Class F insulation. Also used as a winding-component for bus bars, pole-to-pole jumpers, terminal bars, and various insulation purposes in turbo-generators.

Availability

Tape roll / Folium / Wrapper:

Length : 25 – 50 m

Width : 15 – 1000 mm

Packing

Tapes are packed in airtight robust boxes protecting them from dirt, dust and moisture. The packaging also ensures safe transit and storage.

Storage

6 months at $\leq 20^{\circ}\text{C}$

Product Data:

Properties	Test Method	Unit	Value
Nominal Thickness	IEC 60371 – 2	mm	0.12 ± 0.02
Total Substance	IEC 60371 – 2	g/m^2	190 ± 30
Glass Cloth	IEC 60371 – 2	g/m^2	35 ± 3
PET	IEC 60371 – 2	g/m^2	15 - 18
Resin Content	IEC 60371 – 2	%	18 ± 4
Mica Content	IEC 60371 – 2	g/m^2	100 ± 20
Breakdown Voltage	IEC 60243 – 1	kV	> 3
Tensile Strength	IEC 60371 – 2	N	> 150
Volatile Content	IEC 60371 – 2	%	≤ 2

Data is based on tests performed by Ruby Mica. Users are advised to verify and ensure suitability for intended applications. The above product can be tailored according to your desired specifications.



Glass / Micanite Folium

Ruby Mica® Glass / Micanite Folium is a lamination of two layers of fine muscovite mica splitting with glass cloth, bonded together using a B-stage epoxy resin. The resin, when subjected to heat and pressure, yields a cured rigid insulation bearing high mechanical and dielectrical strength.

Application

End-winding on high-voltage rotating machines. When fully-cured to form rigid laminates they provide excellent corona-resistant insulation, capable of withstanding high-voltage partial discharges.

Availability

Folium:

Length : 50 m

Width : 1000 mm

Packing

Tapes are packed in airtight robust boxes protecting them from dirt, dust and moisture. The packaging also ensures safe transit and storage.

Storage

3 months at $\leq 20^{\circ}\text{C}$

Product Data:

Properties	Test Method	Unit	Values
Thickness	IEC 60371-2	mm	0.15 ± 0.02
Total Substance	IEC 60371-2	g/m^2	310 ± 50
Mica Splitting	IEC 60371-2	g/m^2	200 ± 50
Mica Splitting Type	No. 5 / Muscovite		
Mica Splitting Layer	-	-	2
Glass	IEC 60371-2	g/m^2	33 ± 2
Resin	IEC 60371-2	%	25 ± 5
Resin Type	B-Stage Epoxy Novolac		
Thermal Class	IEC 60085		155°C(F)
Catalyst / Hardener		%	5
Resin Flow	IEC 60371-2	%	40-70
Tan Delta			0.01
Room Temp.			0.1
At 155°C	IEC 60250		70
BDV of Cured Lam.	IEC 60243-1	kV/mm	170
Tensile Strength	IEC 60371-2	N/cm	<2
Volatile Contents	IEC 60371-2	%	

Data is based on tests performed by Ruby Mica. Users are advised to verify and ensure suitability for intended applications. The above product can be tailored according to your desired specifications.



Uniform Kapton® / Mica Tape

Ruby Mica® Uniform Kapton® / Mica Tape is a lamination of calcined muscovite mica paper with a Kapton® Polyimide Film. Mica paper is further reinforced with Aramid® Fibroids, to aid an evenly spread, high thermal-grade silicone resin impregnation.

This mica tape being drastically thin spares more room for the conductor, thus helping in size-reduction of the HT motor. It almost sketches the perfect coil-insulation; surpassing the best of all insulation attributes. They have a very high partial-discharge resistance along with increased thermal-conductivity, enabling the HT motor to run cooler for longer.

Application

This uniform mica tape is used for insulation of armature coil in Class-200 traction motors.

Availability

Tape Roll:

Length : 30 m
Width : 25 mm
Thickness : 0.10 mm

Packing

Tapes are packed in airtight robust boxes protecting them from dirt, dust and moisture. The packaging also ensures safe transit and storage.

Storage

12 months at $\leq 25^{\circ}\text{C}$

Product Data:

Properties	Test Method	Unit	Value
Total Substance	IEC 60371 – 2	g/m ²	120 \pm 15
Mica Content	IEC 60371 – 2	%	56 \pm 4
Resin Content	IEC 60371 – 2	%	10 \pm 3
Aramid® Fibroids	IEC 60371 – 2	%	4 \pm 1
Accelerator Content	IEC 60371 – 2	g/m ²	2.5
Tensile Strength	IEC 60371 – 2	N/15 mm	\geq 60
Breakdown Voltage	IEC 60243 - 1	kV (Avg.)	\geq 5.5
	IEC 60243 - 1	kV (Min.)	\geq 4.5
Winding Property	--	--	Good

Data is based on tests performed by Ruby Mica. Users are advised to verify and ensure suitability for intended applications. The above product can be tailored according to your desired specifications.



Uniform Glass / Mica Tape

Ruby Mica® Uniform Glass / Mica Tape is a lamination of high thermal-grade phlogopite mica paper with glass cloth. Mica paper is further reinforced with Aramid® Fibroids, to aid an evenly spread, high thermal-grade silicone resin impregnation.

Application

This uniform mica tape is used in field coil insulation of stator and other parts of traction motors.

Availability

Tape Roll:

Length : 30 m
Width : 25 mm
Thickness : 0.13 mm

Packing

Tapes are packed in airtight robust boxes protecting them from dirt, dust and moisture. The packaging also ensures safe transit and storage.

Storage

12 months at $\leq 25^{\circ}\text{C}$

Product Data:

Properties	Test Method	Unit	Value
Total Substance	IEC 60371 – 2	g/m ²	165 \pm 20
Mica Content	IEC 60371 – 2	%	55 \pm 5
Resin Content	IEC 60371 – 2	%	24 \pm 3
Aramid® Fibroids	IEC 60371 – 2	%	4 \pm 1
Tensile Strength	IEC 60371 – 2	N/15mm	\geq 200
Breakdown Voltage	IEC 60243 - 1	kV	\geq 1.3
Winding Property	--	--	Good

Data is based on tests performed by Ruby Mica. Users are advised to verify and ensure suitability for intended applications. The above product can be tailored according to your desired specifications.





Hot Molding Micanite Sheet

Ruby Mica® Hot Molding Micanite Sheet is made by depositing highly-flexible, thin films of high-quality muscovite mica splittings on top of each other till the required thickness is attained.

Currently, hot molding micanite sheet is available with two choices of binding agent. Alkyd resin-bound sheets stay flexible at room-temperature and is cured completely at 180°C. Whereas, shellac resin-bonded sheets stay rigid at room-temperature and have to be preheated to gain flexibility before curing it completely at 150°C to form a rigid and robust insulation.

Application

Armature coil ground-insulation, armature slots, windings and coil insulation, end-winding turn insulation, bracing rings and V-Ring manufacturing.

Availability

Standard Sheet:

Length : 1000 mm

Width : 1000 mm

Thickness : 0.1 to 1 mm

(Sheets can be sheared to customized sizes)

Packing

Sheets are packed in airtight robust wooden boxes protecting them from dirt, dust and moisture. The packaging also ensures safe transit and storage.

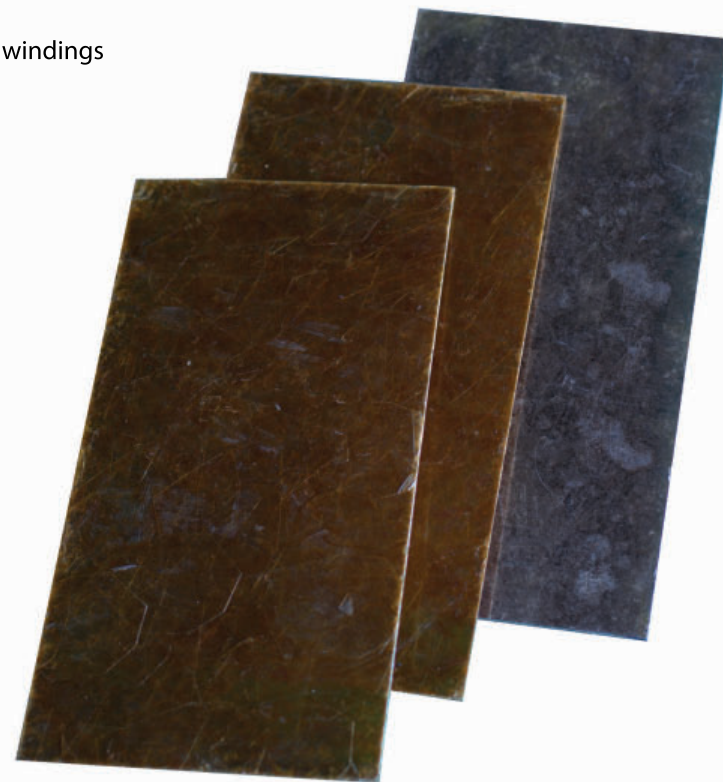
Storage

10 months at $\leq 20^{\circ}\text{C}$

Product Data Sheet:

Properties	Test Method	Unit	Value
Thickness Tolerance	IEC 60371 – 2	mm	± 0.15
Mica Content	IEC 60371 – 2	%	82 ± 7
Resin Content	IEC 60371 – 2	%	18 ± 3
Breakdown Voltage	IEC 60243 - 1	Kv/mm	≥ 18
Winding Property	--	--	Good

Data is based on tests performed by Ruby Mica. Users are advised to verify and ensure suitability for intended applications. The above product can be tailored according to your desired specifications.



Flexible Micanite Sheet

Ruby Mica® Flexible Micanite Sheet is made by depositing highly-flexible, thin films of high-quality muscovite mica splittings on top of each other till the required thickness is attained. High thermal-endurance binder ensures high-flexibility and tensile strength at all times. It has a temperature index of at least 155°C .

Application

Ground-insulation of armature coils in traction motors.

Availability

Standard Sheet:

Length : 1000 mm

Width : 1000 mm

Thickness : 0.1 to 1 mm

(Sheets can be sheared to customized sizes)

Packing

Sheets are packed in airtight robust wooden boxes protecting them from dirt, dust and moisture. The packaging also ensures safe transit and storage.

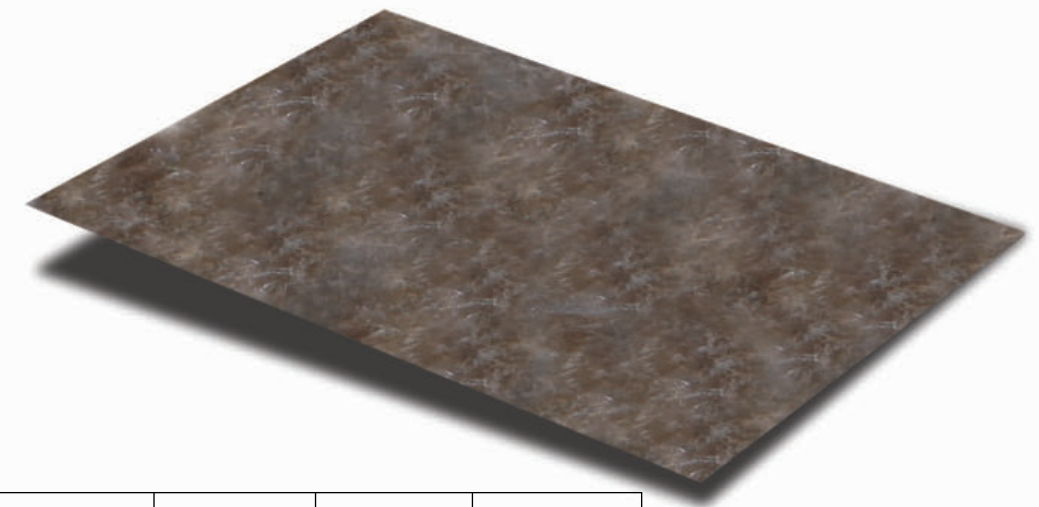
Storage

10 months at $\leq 20^{\circ}\text{C}$

Product Data:

Properties	Test Method	Unit	Value	Value
Nominal Thickness	IEC 60371 - 2	mm	0.25, +0.2 -0.1	0.8, +0.3 -0.25
Total Substance	IEC 60371 - 2	g/m^2	550 ± 70	1380 ± 160
Mica	IEC 60371 - 2	%	87 ± 7	87 ± 7
Tensile Strength	IEC 60371 - 2	N/15 mm	≥ 49	≥ 150
Breakdown voltage	IEC 60243 - 1	kV	≥ 5	≥ 15
Winding Property			Good	Good

Data is based on tests performed by Ruby Mica. Users are advised to verify and ensure suitability for intended applications. The above product can be tailored according to your desired specifications.



Glass / Micanite / Glass Sheet

Ruby Mica® Glass / Micanite / Glass Sheet is made by depositing highly-flexible, thin films of high-quality muscovite mica splittings on top of each other till the required thickness is attained. To increase thermal-conductivity and improve material-handling the sheets are backed with glass cloth on both sides. High thermal-grade silicone resin is used as a binding agent.

Glass cloth top and bottom backing can be replaced with Dupont® Nomex® paper making it a Nomex®/ Micanite / Nomex® sheet. This sheet possess a higher mechanical-strength and resists edge-tearing.

Application

Class H ground insulation in HT motors & generators, coil insulation of heavy lifting electro-magnets working in high heat environments.

Availability

Standard Sheet:

Length : 1000 mm

Width : 1000 mm

Thickness : 0.1 to 2 mm

(Sheets can be sheared to customized sizes)

Packing

Sheets are packed in airtight robust wooden boxes protecting them from dirt, dust and moisture. The packaging also ensures safe transit and storage.

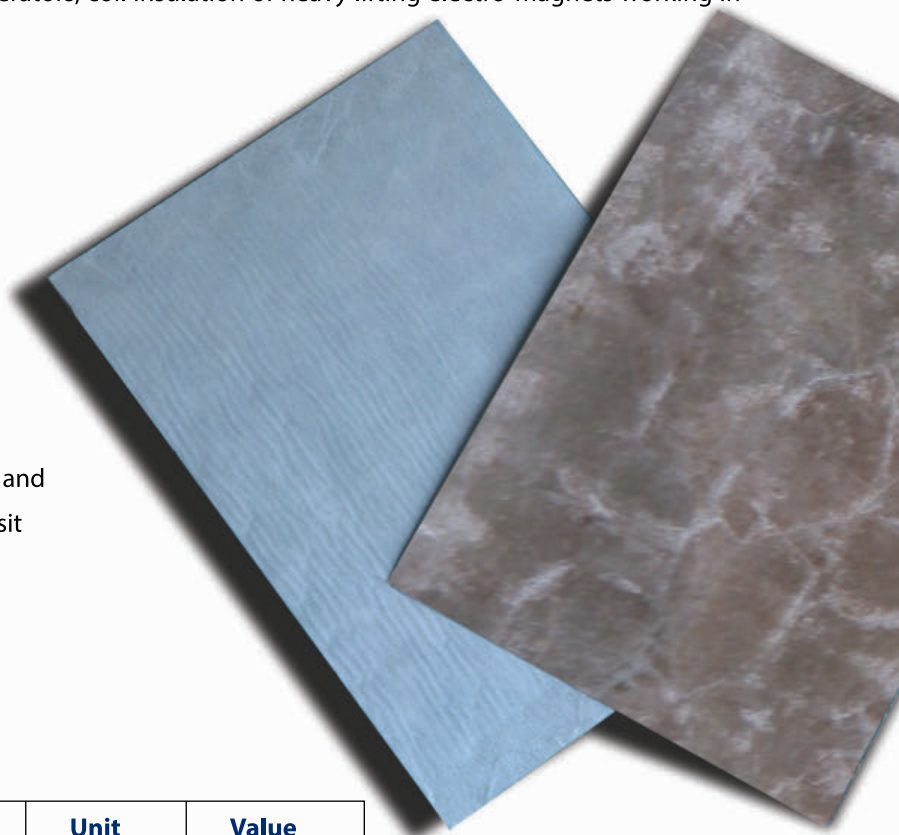
Storage

12 months at $\leq 20^{\circ}\text{C}$

Product Data:

Properties	Test Method	Unit	Value
Nominal Thickness	IEC 60371 - 2	mm	0.15 – 2
Mica Splitting	IEC 60371 – 2	%	75 \pm 4
Glass Content	IEC 60371 - 2	%	10 \pm 2
Volatile Contents	IEC 60371 - 2	%	<1
Resin Content	IEC 60371 - 2	%	15 \pm 2
Tensile Strength	IEC 60371 - 2	N/cm	400
Dielectric Strength	IEC 60243 - 1	kV/mm	20
Density	IEC 60371 - 2	g/cm ³	2.2
Flexibility			Good

Data is based on tests performed by Ruby Mica. Users are advised to verify and ensure suitability for intended applications. The above product can be tailored according to your desired specifications.



Flexible Mica Sheet

Ruby Mica® Flexible Mica Sheet is made by combining muscovite or phlogopite mica paper with an inorganic silicone-resin binder under specific heat and pressure. It has excellent flexibility, heat-resistance, moisture-resistance and di-electric properties. It does not emit smoke or odor upon heating up.

Muscovite mica paper-based material can withstand temperatures up to 600° C whereas phlogopite mica paper-based material can withstand temperatures up to 800° C. The product is IEC 60371-3-3 compliant. Flexible mica sheets can also be made using a B-Stage epoxy resin as a binder. These sheets have excellent adherence to metal surfaces.

Application

Filling voids and unevenness in conductor bunches, roebel bars, high-temperature-resistant gaskets, hollow spaces and cavities in electrical machines.

Availability

Standard Sheet:

Length : 1000 mm

Width : 600/1000/1200 mm

Thickness : 0.1 to 3 mm

(Sheets can be sheared to customized sizes)

Packing

Sheets are packed in airtight robust wooden boxes protecting them from dirt, dust and moisture. The packaging also ensures safe transit and storage.

Storage

6 months at $\leq 25^{\circ}\text{C}$ • 12 months at $\leq 5^{\circ}\text{C}$

Product Data:

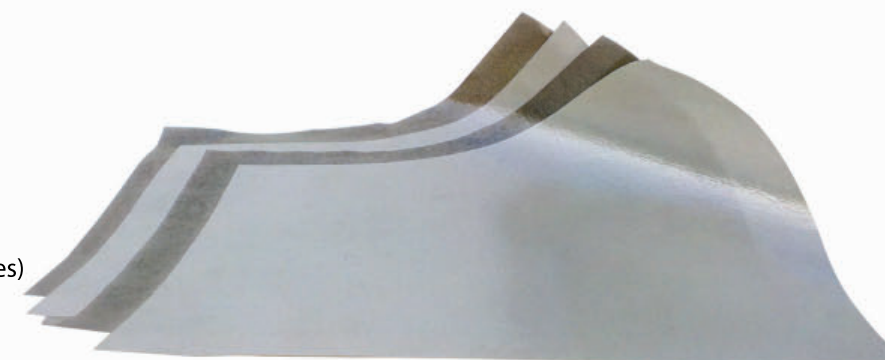
Material :		
Mica	%	80
Silicone	%	20

Mechanical :		
Density	g/cm ³	2.1 \pm 0.1
Tensile Strength	MPa	> 25
Compression	%	< 20

Electrical :		
Dielectric Strength	kV/mm	> 20

Other :		
Weight Loss	%	< 0.5
Water Absorption	%	< 0.2

Data is based on tests performed by Ruby Mica. Users are advised to verify and ensure suitability for intended applications. The above product can be tailored according to your desired specifications.





Rigid Glass Mat

Ruby Mica® Rigid Glass Mat consists of highly heat-resistant chopped-glass strands composed into a uniform mat by impregnating it with a special varnish.

Application

Offering good thermal-insulation, it is used for various slot filling, support and packing application in VPI stator / rotor winding / housing.

Availability

Standard Sheet:

Length : 1000 mm

Width : 1000 mm

Thickness : 1 to 5 mm

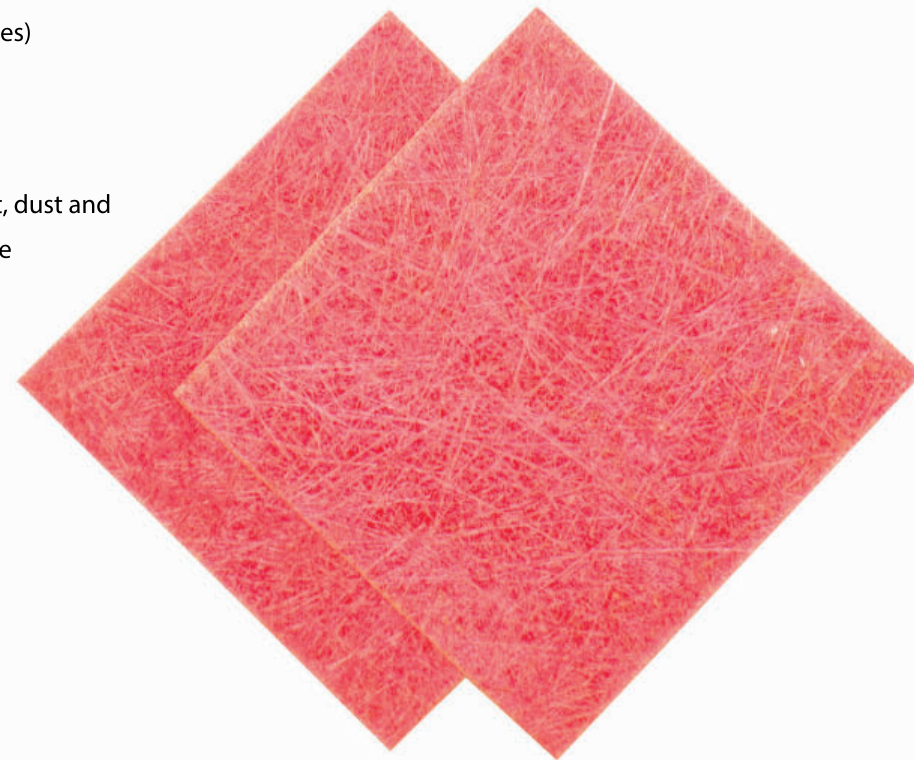
(Sheets can be sheared to customized sizes)

Packing

Sheets are packed in airtight robust wooden boxes protecting them from dirt, dust and moisture. The packaging also ensures safe transit and storage.

Storage

24 months at $\leq 25^{\circ}\text{C}$



Product Data:

Nominal Thickness in mm	1 ± 0.3	1.5 ± 0.3	2 ± 0.3	2.5 ± 0.3	3 ± 0.3	4 ± 0.4	5 ± 0.5
Total Substance g/m ² ± 10%	950	1425	2000	2375	3000	4100	4750
Binder Content %	12 - 17						
Pressure Resistance Parallel to Layers	200 N/mm ² min.						

Data is based on tests performed by Ruby Mica. Users are advised to verify and ensure suitability for intended applications. The above product can be tailored according to your desired specifications.



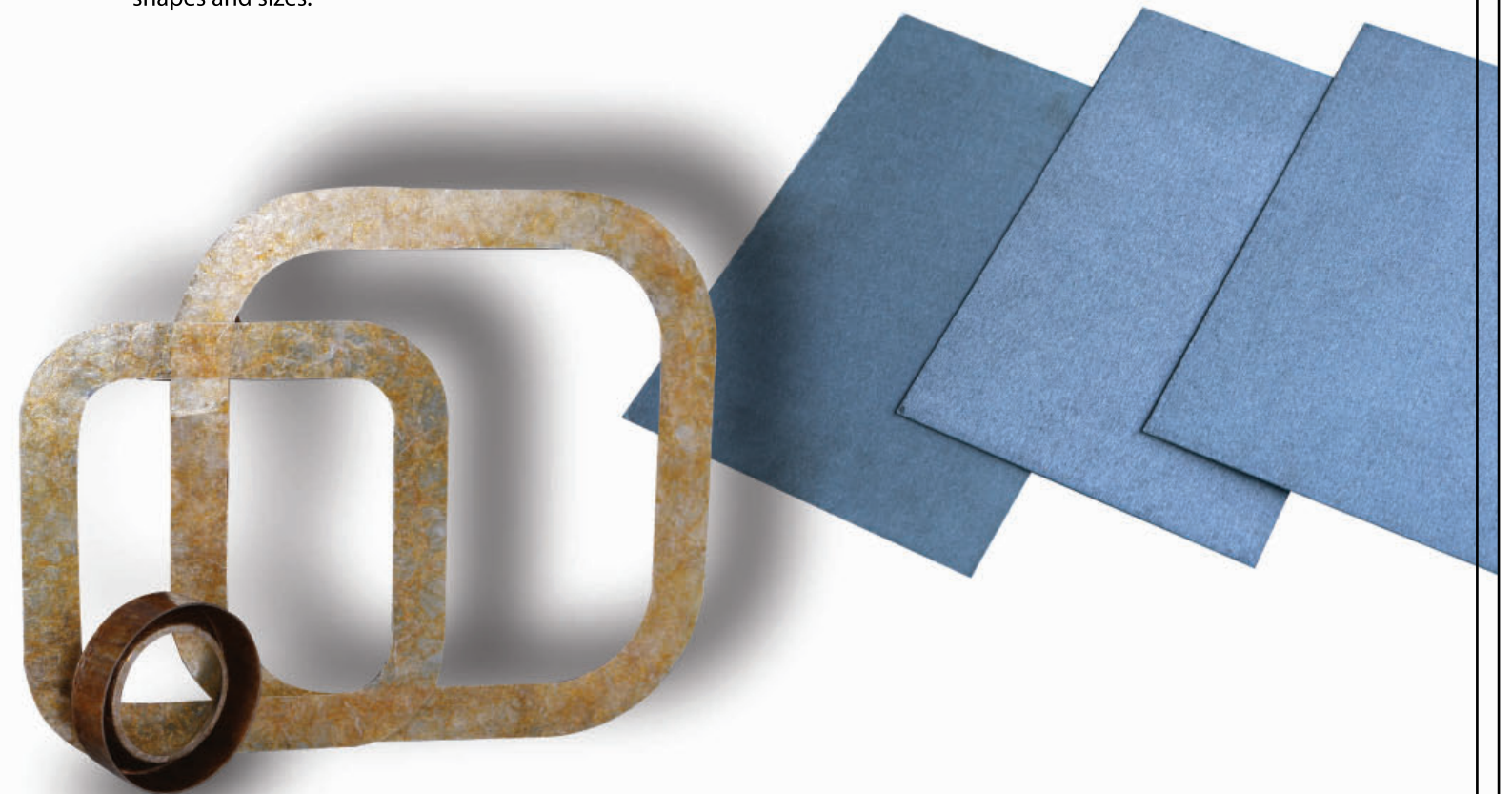
Mica Commutator Segments

Ruby Mica® Commutator Segments AV is made by depositing highly-flexible, thin films of high-quality muscovite mica splittings on top of each other till the required thickness is attained. These rigid sheets are fully heat and pressure-cured using alkyd vinyl resin as a binder.

Ruby Mica® Commutator Segments MP is made by combining phlogopite mica paper with an epoxy resin binder. These rigid sheets are fully cured under high specific-heat and pressure.

A great deal of emphasis is given to the segment-hardness and precise thickness. The sheets are finely ground and passed through stringent thickness-testing both online and offline to ensure their conformation to the norms.

These commutator segments are highly customizable and therefore can be punched or machined to desired shapes and sizes.



Mica V-Rings

Ruby Mica® V-Rings are made using alkyd vinyl bonded mica splitting-based sheets. The flexible-sheet cut-pieces are molded and formed to a V-Ring shape using heavy cast-iron molds. These molds are subjected to high heat and pressure for a final curing-cycle, yielding a rigid V-Ring. They are ground to a final finish with precise thickness and surface-finish.

These V-Rings are highly-customizable and therefore can be molded to desired shapes and sizes.