

BRITETM
ELECTRIC RESISTANCE WIRE

BALAJI MICA
Hi Quality Mica

DEEPAK ELECTRICAL INDUSTRIES

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ABOUT US : DEEPAK ELECTRICAL INDUSTRIES

Deepak Electrical Industries

Deepak Electrical Industries one of the ISO 9001:2008 Certified Company incepted in the year 1990. We are one of the leading manufacturers, wholesale supplier, importer & exporter of electric resistance wires and premium quality of mica products. We produce customized fabricated mica as per client requirement. We owned mica manufacturing unit at Delhi and able to fulfill the requirement of any importers worldwide. We have been able to effectively meet the requirements of our global client within the consignment deadlines.

We offer a wide spectrum of electrical materials that includes various types of mica and mica products, Electrical Resistance wire, Iron elements and insulation material.. Manufactured from premium quality raw materials, we have manufactured a wide assortment that comprises of

- ✓ Brite Electrical Resistance Wire
- ✓ Mica, Fabricated Mica and Customized Mica
- ✓ Heating Elements of various kinds of Domestic Appliances
- ✓ Customized mica elements for Electric Iron, Kettle and Toaster etc.
- ✓ Insulation material

We have supplied and exported our range of products in India and different parts of world and have received appreciation for impeccable quality and product excellence. Our range features the following attributes:

- ✓ Higher quality of raw materials used
- ✓ Excellent function and prolonged durability

Client Satisfaction

Being a client centric organization our manufacturing and exporting is based on ethical business policy that make us a reliable and trusted partner of our clientele. We emphasize on achieving complete client satisfaction through our activities. Our professionals with vast industrial experience accumulate information about industry requirement and thereby help us in manufacturing high quality products that are at par with international standard. Owing to our professional approach we are able to amass clients from domestic as well as from global markets. Our clientele spreads across all countries.

Further, we are also able to generate client satisfaction through our ON-TIME delivery of products and easy payment modes.

Warehousing & Packaging

Deepak Electrical Industries

Our warehouse spreads across a huge area that enhances our storing capacity. The warehouse is properly planned to store products in bulk amount. The warehouse is properly maintained with sophisticated material handling equipment for easy storage and retrieval of products.

Research & Development

Our separate unit for research and development enables us to test our product range for premium quality. Manned by professional research associates, our R&D unit is engaged in various research activities regarding durability and reliability. They comprehend the industrial requirement and client specifications and accordingly bring effective changes in the product composition. They remain in continuous touch with changing trends & technology, and incorporate essential techniques in the manufacturing process. They also come up with innovative ways to meet the specific requirement of our clients.

Quality Assurance

We follow stringent quality policy right from the beginning of our manufacturing process. Our quality policy encompasses all the stages of manufacturing viz. sourcing of raw material, processing to finished products till the final shipment. Our quality analysts conduct regular inspection of raw materials and finished products on various parameters.

Further, we assure our clients flawless quality in the packaging and transportation. Our wide gamut of products is packaged in qualitative packaging material to ensure convenient material handling. Clients can be assured of our higher standard from the fact that we are certified by ISO 9001:2008 for excellent product quality.

Our Team

Our team of diligent professionals has helped us lay a strong foundation in the refractor industry by supplying premium quality of products. Our adept workforce has deep knowledge about the products we cater to various industries. Our professionals have vast experience in the processes of manufacturing various types of mica products, resistance wire and insulation material. Our team of professionals includes:

- ✓ Engineers
- ✓ Technocrats
- ✓ Quality analysts
- ✓ Sales personnel

Our engineers and technocrats are well versed about the working of the different machines used in our manufacturing unit. Their meticulous efforts in keeping the machinery in a prime state allows smooth and speedy functioning, thereby helping us in increasing the total production capacity. Our quality analysts ensure that we deliver flawless products that are at par with the established industry standards.

Deepak Electrical Industries

Further, our sales and marketing personnel have a thorough understanding about the domestic and international market. They are also highly efficient in providing solutions to various product related queries of our clients and help in brand promotion.

Infrastructure

We have a state-of-the-art infrastructure spread across a sprawling area enabling us to undertake large scale production of various products like

- ✓ Brite Electrical Resistance Wire
- ✓ Mica, Fabricated Mica and Customized Mica
- ✓ Heating Elements of various kinds of Domestic Appliances
- ✓ Customized mica elements for Electric Iron, Kettle and Toaster etc.
- ✓ Insulation material

OUR PRODUCTS: DEEPAK ELECTRICAL INDUSTRIES

Electrical Wires



BRITE WIRE 21/4R

This is a FeCrAl wire which is recommended for use at temperature up to 1100°C , it has good life performance and low cost, typical application in heating elements for domestic appliances.

Electrical Wires



BRITE WIRE 25/5A

This is high temperature FeCrAL alloy for element temperature up to 1300°C , it is especially recommended where excellent oxidation and life properties with good stability properties are required. It is used as heating elements in industrial furnace and in domestic and kitchen appliances industry, typical application in domestic and kitchen appliances are in open coil mica element for toaster, hair dryer, zigzag ribbon shaped heating elements in force air heater like hot air gun fan heater dryer etc.

Electrical Wires



BRITE WIRE 60/16

This is austenitic NiCr alloy used at element temperature up to 1150°C . It has excellent hot strength, good oxidation properties and very good formability also has good corrosion resistance except in Sulphur containing atmospheres and certain controlled atmospheres. It is used in heating element in domestic application in metal sheeted tubular element used in hot plate, Oven Grill, Toaster, Storage Heater etc, and as suspended coils in air heater used in cloth dryer, fan heater, hair dryer and in industrial furnace.

Electrical Wires



BRITE WIRE 80/20

This is high grade austenitic NiCr alloy which is recommended for use at element temperature up to 1200°C . It has many advantage due to its excellent properties in the hot state and has superior life compared to all resistance heating alloy because of the extremely good adhesion properties of the surface oxides .Many typical applications are in all types of heating elements of domestic and industrial appliances and industrial furnace.

Electrical Wires



Classification & Property of Brite Wire Resistance Heating

Classification	Brite Wires 21/4R	Brite Wires 25/5A	Brite Wires 60 /16	Brite Wires 80 /20
Nominal Composition %				
Cr-	19.0-21.0	22.0-26.0	15.018.0	19.0-22.0
Al-	3.0-4.5	4.0-26.0	-	-
Fe-	Rest	Rest	Rest	-
Ni-	-	-	60	Rest
	1100	1300	1150	1200
Melting Point 0C	1500	1500	1390	1400
Resistivity at 200C (Qmm2/m)	1.23#0.08	1.42#0.08	1.12#0.08	1.09#0.08

Deepak Electrical Industries

Density (g/cm ³)	7.35	7.10	8.20	8.40
Elongation%	>12	>12	>20	>20
Coefficient of Linear expansion (OX10-6/0C)	13.5	16.0	17.0	18.0
Thermal conductivity(KJ/m.h0C)	46.9	46.1	45.2	60.3
Tensile strength MPa	600-700	630-780	700-850	700-900
Magnetic properties	Magnetic	Magnetic	Slightly Magnetic	Non Magnetic
Micrographics structure	Ferrite	Ferrite	Austenitic	Austenitic

Electrical Wires



TEMPERATURE RESISTANCE FACTOR

wires	20*C	100*C	200*C	300*C	400*C	500*C	600*C
Brite Wires 21/4R	1.000	1.011	1.025	1.042	1.061	1.085	1.120
Brite Wires 25/5A	1.000	1.002	1.005	1.008	1.013	1.021	1.030
Brite Wires 60/16	1.000	1.012	1.022	1.046	1.064	1.082	1.092
Brite Wires 80/20	1.000	1.006	1.015	1.028	1.045	1.065	1.068

Brite Wires	700*C	800*C	900*C	1000*C	1100*C	1200*C	1300*C
Brite Wires	1.142	1.154	1.172	1.180	1.186		

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21/4R							
Brite Wires 25/5A	1.038	1.038	1.042	1.044	1.046	1.047	1.050
Brite Wires 60/16	1.100	1.107	1.114	1.123	1.132		
Brite Wires 80/20	1.057	1.051	1.052	1.062	1.071	1.080	

Electrical Wires



RESISTANCE TOLERANCES

Standard resistance tolerance for wire is as per the following table, Wire can be supplied to closer tolerance on demand.

Wire size (mm)	Resistance tolerance
Less than 0.30 mm	±8%
Less than 0.60 mm-0.30 mm	±5%
0.60 mm & more	±3%

(SWG)	(MM)	(SWG)	(MM)
5-0	10.973	24	0.559
4-0	10.160	25	0.508
3-0	9.449	26	0.457
2-0	8.839	27	0.417
0	8.230	28	0.376
1	7.620	29	0.345
2	7.010	30	0.315
3	6.401	31	0.295

4	5.893	32	0.274
5	5.385	33	0.254
6	4.877	34	0.234
7	4.470	35	0.213
8	4.064	36	0.193
9	3.658	37	0.173
10	3.251	38	0.152
11	2.946	39	0.132
12	2.642	40	0.122
13	2.337	41	0.112
14	2.032	42	0.102
15	1.829	43	0.0914
16	1.626	44	0.0813
17	1.422	45	0.0711
18	1.219	46	0.0610
19	1.016	47	0.0508
20	0.914	48	0.0406

Fabricated Mica



Mica an Introduction

Mica is a generic term applied to a group of Complex aluminosilicate minerals having a sheet or plate like structure with different composition and physical properties. All mica form flat six-sided monoclinical crystals with a remarkable cleavage in the direction of large surfaces, which permits them to easily split into optically flat films. When split into thin films, they remain tough and elastic even at high temperature. Mica possesses some of the most outstanding combinations of chemical, physical, electrical, thermal and mechanical properties which are not found in any other product.

Physically: Mica is transparent, optically flat, easily splittable into thin films along its cleavage, colourless in thin sheets, resilient and incompressible.

Chemically: It is a complex hydrous silicate of aluminium, containing potassium, magnesium, iron, sodium fluorine and/or lithium and also traces of several other elements. It is stable and completely inert to the action of water, acids (except hydro-fluoric and concentrated sulphuric) alkalies conventional solvents, oil and virtually unaffected by atmospheric action.

Electrically: Mica has the unique combination of great dielectric strength, uniform dielectric constant and capacitance stability, low power loss (high Q factor), high electrical resistivity and low temperature coefficient and capacitance. It is noted for its resistances to arc and corona discharge with no permanent injury.

Thermally: Mica is fire proof, infusible, incombustible and non-flammable and can resist temperatures of 600-C to 900-C, depending on the type of mica. It has low heat conductivity, excellent thermal stability and may be exposed to high temperatures without noticeable effect.

Mechanically: Mica is relatively soft and can be hand cut, machined or die-punched. It is flexible, elastic and tough, having high tensile strength.

Fabricated Mica



We supply a wide range of fabricated mica products, including mica washers, cut gaskets, mica for liquid level indicators, cut mica discs, mica condenser plates, mica segments, mica bushings.

We manufacture custom cut, punch, and machine mica to your exact drawings and specifications. We can fulfill all customized requirement of mica for your various needs some of important customized products are as follows:

Transistor Parts

Power transistors and diodes need an insulation to prevent excessive heat reducing their performance; Precision punched mica washers help the transistor to be insulated from the chassis

and to dissipate the heat away from the transistor and other semi-conductors.

Fabricated Mica



Mica Washers

These are mica discs with a round opening in the centre, which can be bonded by shellac or epoxy into considerable lengths. Maximum use is in railways.

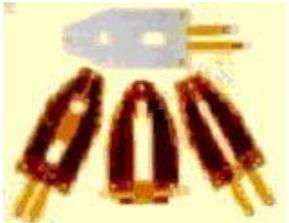
Fabricated Mica



Mica for Liquid Level Indicators

Die cut or lathe cut round discs are used in liquid level indicators, breathing apparatus, communication devices, fuses, etc.

Fabricated Mica



Heating Elements

Due to mica's electrical insulation, it is used in irons, toasters and kettles for heating elements. In all these applications, the electrical wire is wound around the mica.

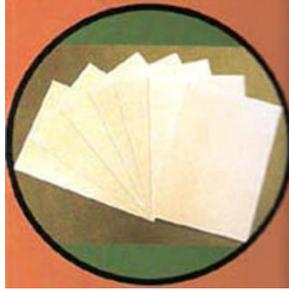
Fabricated Mica



Window Mica

Owing to thermal insulation and transparency, it is used as a see-through medium for kerosene stoves, petromax lamps, furnaces, etc.

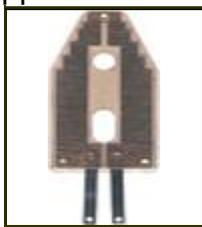
Mica Paper Board Mica Nite



Mica Paper board is a constituted muscovite mica paper, which impregnated, bonded with heat resisting silicone resin. Mica Paper are pressed under heat and high pressure to form rigid sheets. Mica paper Board has good mechanical, electrical and thermal properties. It is hard and rigid, silver- brownish color. Mica Board withstand to 500°C continuous operating temperature. It occurs low smoke on initial heat first time. Applications are base and covers plates for elements for Toasters, Hair dryers, air heater, Electric Irons as well as many domestic appliances heating elements.

Electric Iron Elements

Natural mica is main part of mica heating elements. High grade ribbons / resistance wire are used for good temperature uniformity and longer life. High quality of mica paper board are also used in place of natural mica. Mica insulation covers for conserving energy ,flexibility for easy installation are mainly used in electrical house hold appliances.



E.I-001



E.I-002



E.I-003



E.I-004



E.I-005



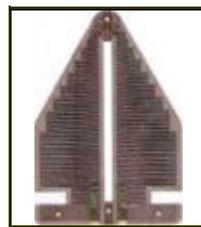
E.I-006



E.I-007



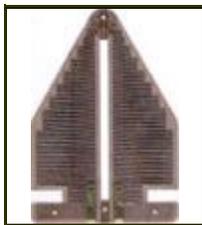
E.I-008



E.I-009



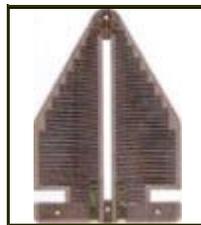
E.I-0010



E.I-0011



E.I-0012



E.I-0013



E.I-0014



E.I-0015

Travel Iron Elements



Travel iron elements are of low wattage elements. These elements are made from high grade mica paper board ,/ natural mica , nickle chrome resistance wires are used for its longer life and manufacturer for traveling purpose Electric Irons.

Kettle Elements



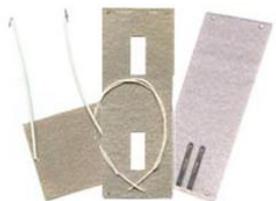
Kettel Elements made from High quality Mica / Mica Paper Board and high grade ribbons .These are specially used for Electric Kettles and leaf plate making machine. Available **Dia -3", 3.5", 4", 5"**

Toasters Elements



Toaster Elements are made from high grade Mica paper Board, Natural Mica. Nickel Chrome Resistance wire for its longer life. These elements are mainly used in pop-up toasters in house hold appliances.

Custom Design Elements



We at Deepak Electrical Industries are the premier manufacturer and supplier of Heating Elements. We design elements as per buyers design and specifications

Popcorn Machine Elements



Popcorn Machine Elements are made from high grade mica paper board .Nickel chrome wires are used for longer life .These elements are manufacturing for domestic popcorn machines.

Industrial Heaters



Cartridge Heaters

Available in size varying from 6mm to 51mm (+- .05mm) Recommended wattage 30 to 45 watts per square inch . Installation with closest possible fit. Holes should be drilled and then reamed to the nominal size.

Used as Heating Jaws , platens and moulds in operations involving packaging Machinery , Plastic Injection , Shoe Machinery , Heat Sealing , Hot Stamping and Iron Pots.

Industrial Heaters

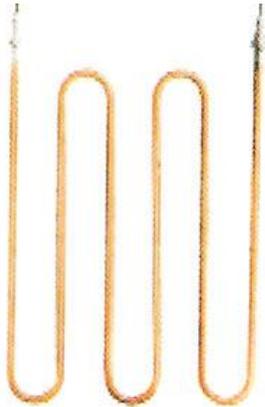


CERMIC AND MICA BAND HEATERS

Extra heat insulation covers for conserving energy , flexibility for easy installation ,good Temperature uniformity, longer heater life with various constructions and terminations.

Used in Plastic processing Machinery, Injection Moulding Blow Moulds, Extruders, Holding tanks , Drums , Food Warmer Containers, nding Machines, t Water Dispensers.

Industrial Heaters



TUBLER AIR HEATERS

Sheath can be of various SS grades , incoloy and Inconel with diameter options of 6.8mm , 8mm, 10mm and 13.5 mm. They are versatile and can be formed into any shape.

Used in Air Conditioning , Ovens , Kitchen Equipment , Shrink Tunnels, Heating Ducts , Thermoforming and curing Applications.

Industrial Heaters



FINNED AIR HEATERS

Ensure longer life and uniform heating but have limitations in configurations.

Used in Air Conditioning , Ovens , Kitchen Equipment , Shrink Tunnels, Heating Ducts , Thermoforming and curing Applications.

Industrial Heaters



STRIP HEATERS

Ensure longer life and uniform heating but have limitations in configurations.

Used in Air Conditioning , Ovens , Kitchen Equipment , Shrink Tunnels, Heating Ducts ,Thermoforming and curing Applications.

Electrical Insulation Material



PHENOLIC CLOTH LAMINATING ROD Phenolic cloth laminating rod is made of cotton cloth , impregnated with phenolic resin and hot pressed with forming dies . This rod possesses high mechanical property , suitable for use as insulating parts for electric equipment . It can be used in transformer oil

Electrical Insulation Material



GLASS FIBER TAPE : The product is woven of alkyl free glass fiber . It is characteristic of excellent heat resistance and insulativity , suitable for insulation in electric machines and electric appliances.

Electrical Insulation Material



Phenolic Paper Laminates:

Characteristics and applications: Thermal grade E , Widely range of application ,for Example : suitable for using as insulating structural parts of machinery and electric equipments , such as electric generators , motors, switch board, etc.

Electrical Insulation Material



Phenolic Cotton Cloth Laminates:

Characteristics and applications: Thermal grade E , Widely range of application ,in mechanical and electrical field . For example : suitable for using as insulating structural parts of machinery and electric equipments , such as electric generators , motors, switch board, etc.

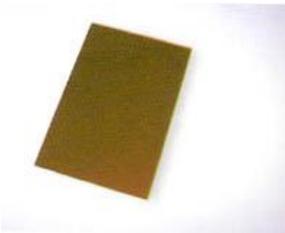
Electrical Insulation Material



MOLDED ROD :

Characteristics and applications: General mechanical and electrical applications.

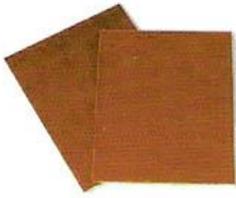
Electrical Insulation Material



Product with specific properties:

Phenolic paper laminated sheet, high voltage applications at power frequencies. High electrical strength under oil, good electrical strength in air under normal humidity.

Electrical Insulation Material



Phenolic cotton cloth laminate, with very good mechanical strength, electrical properties and good moisture resistance, for mechanical and electrical application, suitable for being used as mechanical structural parts and insulating structural parts of the electric equipment can be used for making fine gears and other small machine parts.

Electrical Insulation Material



Epoxy glass cloth laminate, with high mechanical strength at room temperature and 150°C, good electrical properties under dry and humidity conditions, flame retardant. Used for making insulating structural parts in electrical, electronic and other industries. Similar to NEMA grade FR-5.

Electrical Insulation Material



Epoxy glass cloth molded rod. This grade can provide high mechanical strength at room temperature and had good dielectric performance, low moisture absorption, as well as flame retardant. This grade is normally used for normally used for electrical and electronic insulation where low moisture absorption and high mechanical strength is needed.