

METAL-KİMYA

San.ve Tic.Ltd.Şti.



ABOUT US

Metal-Kimya Sanayi ve Ticaret Ltd. Şti. was established in 1999 as representative of some foreign glass enamel and coating products producer.

We have been producing our products since 2006 for global industry.

Our production department is well equipped with high capacity machinery and we have the ability to produce from 1 kg to over 5000 kg orders very fast and deliver to our customers with our technical production and quality control people. Our quality department is checking the products from raw materials to packaging process in any steps of production.

PRODUCTS

➤ TEMPERED GLASS ENAMEL (CERAMIC PAINT)

On glass surfaces; These enamel coatings are produced with inorganic pigments and special ceramic raw materials with the best suitable Metal-Kimya mediums. Tempering glass enamels are fired in normal temper glass conditions between 660-740 C.

With our standard range of colours RAL, PANTONE, NCS colours can be reproducible on glass. Special colours can be matched in our laboratories on customer demands with our standard colour range. Please contact with our technical department for your colour needs on glass.



➤ THERMOPLASTIC ENAMEL

For glass bottles and tableware; Thermoplastic coatings are produced with special Thermoplastic mediums and inorganic pigments. They are suitable to print on glass bottles and tableware. Firing cycle is between 550-630 C with the many different colours.



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➤ **AUTOMOTIVE LAMINATED ENAMELS (FOR WINDSCREEN)**

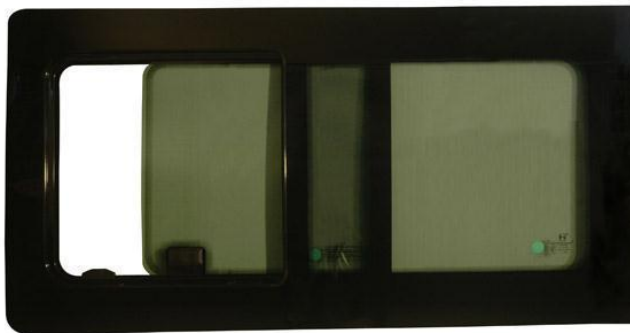
On windscreen; These enamel coatings are produced with inorganic pigments and special ceramic raw materials with the best suitable Metal-Kimya mediums. Firing condition is between 550-590 C.



➤ **AUTOMOTIVE BACKLITE & SIDELITE TEMPERED ENAMEL (REAR GLASS)**

On backlites; These enamel coatings are produced with inorganic pigments and special ceramic raw materials with the best suitable Metal-Kimya mediums. Firing condition is between 680-740 C.

On sidelites; These enamel coatings are produced with inorganic pigments and special ceramic raw materials with the best suitable Metal-Kimya mediums. Firing condition is between 680-740 C.



➤ **SILVER PASTE**

In general, METAL – KİMYA silver pastes can be fired in all common glass bending and tempering furnaces. We recommend drying before firing, firing time as long as possible (within the limits of the bending process). The optimum firing cycle should be determined by experiment. The most commonly screens are 90T – 120T meshes. It is particularly important to ensure that the screen and substrate are parallel in order to achieve an even film thickness. Furthermore, the screen printing station should be sited in an area that is not only clean and dry, but also preferably temperature controlled.

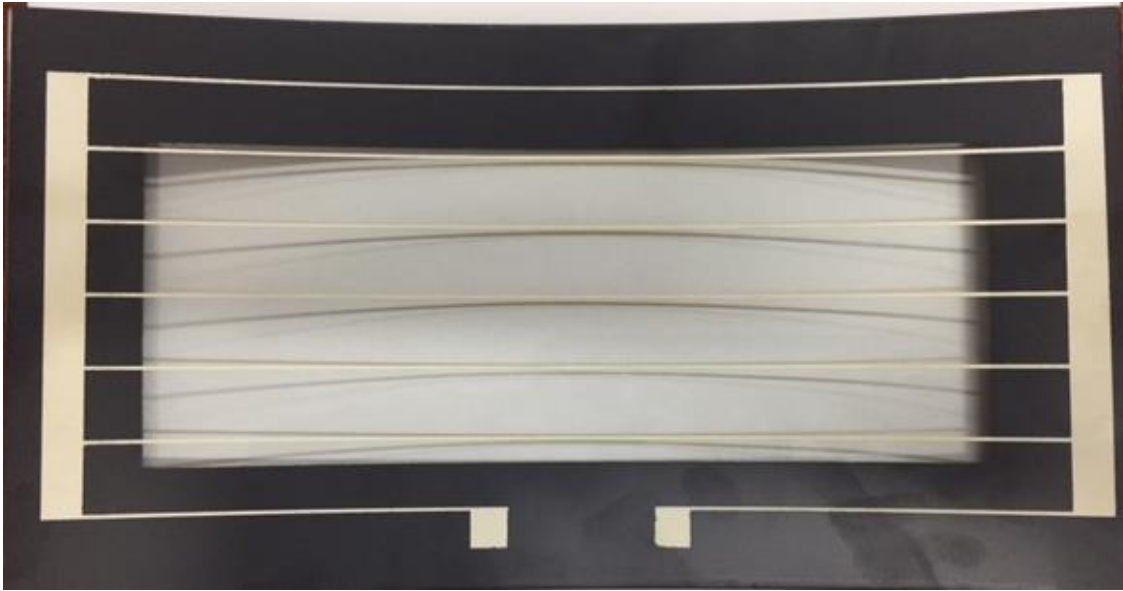
Processes during a firing cycle:

- a) 150 °C - 180 °C solvents and resins will evaporate or burn off
- b) 450 °C - 500 °C Silver particles will start sintering
- c) 600 °C - 700 °C frit system in black enamel becomes fluid

Difficulties can occur when printing and firing silver paste on top or between ceramic colour layers. The inorganic systems of silver and colour pastes must be compatible to avoid cracks and pinholes.

Solderability can be effected by the migration of ceramic particles into the silver-layer. Chemical reactions or different heat absorption can cause a discoloration of the printed layers. The most suited product combination of Silver and Black must be selected by tests under production conditions. METAL-KİMYA offers compatible systems of ceramic colours and silver pastes.

The terminals can be soldered onto the busbars using solder irons, direct electric current heating or high frequency heating methods.



➤ **ORGANIC COATINGS**

❖ **TRANSPARENT COATINGS**

For glass substrates; These organic coatings made by special transparent pigments and applied by screen printing , spraying, curtain and roller coating methods. Best curing cycles are between 80-200 C depending on the conveyor speed in production. Fur more information, please contact with our technical department for technical assistance.



❖ **MIRROR EFFECT**

The coatings are specially designed for achieving mirror effect on glass. The colour shades vary from silver mirror, gold and special stainless steel INOX effects on glass surface. The other benefits of these coatings is they are suitable for old mirror repairment. Curing cycle is between 60-300 C. For more information please contact with our technicians.



❖ **OPAQUE COATINGS**

For glass substrates; Opaque organic coatings made by high opacity special pigment and applied by screen printing , spraying, curtain and roller coating methods. We have ability to produce mirror back coatings.

Best curing cycles are between 80-200 C depending on the conveyor speed in your production. Fur more information, please contact with our technical department for technical assistance.

