



General information

Crinkle enamels are granulated colourless particles of leadborosilicate or zincborosilicate glass for the purpose of decorating glass ware.

Being fired, the side by side lying glass grains form small drops, which make an effect as if the glass was covered with ice crystals.

Crinkle colours are mainly used for the decoration of drinking glasses, decorating glasses and lighting glasses.

In many cases they are also combined with other decoration colours and / or precious metal preparations.

They are produced in two different particle sizes which differ from each other as follows:

Lead containing:	Granulation III	= coarse	0,25 – 0,50 mm
	Granulation IV	= medium	1,12 – 0,25 mm
	Granulation V	= fine	0,06 – 0,12 mm
Leadfree:	Granulation 1	= coarse	0,80 – 2,40 mm
	Granulation 2	= fine	0,20 – 0,80 mm

For the decoration of drinking glasses and illumination glasses regularly the granulation IV is used.

Indication:	Item number:	Remark:
Crinkle enamel	E 84 (E 9901)	soft
Crinkle enamel	E 32 (E 9902)	medium
Crinkle enamel	E 25 (E 9904)	hard
Crinkle enamel	E 231	medium
Crinkle enamel	E 9827	bending crinkle enamel
Crinkle enamel	EB 9000 (leadfree)	medium

Please Note:

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Lighting Glass and Hollow Glass Ware

Crinkle colours are excellently suitable for the decoration of lighting glass and hollow glass ware.

The firing range of the first four crinkle enamels is between 520 ° C to 580 ° C.
Crinkle colour E 9827 is a bending crinkle enamel, which during the normal firing-on procedure needs at least 650 ° C for melting on basic glass.
EB 9000 is a leadfree crinkle enamel for 570 – 600°C

Processing

In order to fix the glass granulate on the decoration object, the places to be decorated have to be covered with adhesive paste for crinkle enamels.
You can perform application by brush or by screen printing.

On the freshly applied adhesive layer the glass particles have to be spread by hand or by the help of a screen.

On the surface of the glass a layer of densely side by side lying grains will stick. The rest will fall down or can be removed by slightly knocking or pushing down the object. These particles fallen down can be used again.

Coloured Decorations

For producing pastel tone decorations, the crinkle adhesive paste can be tinted.
After you have applied the tinted adhesive paste, you cover it with grains of colourless crinkle enamel.

For tinting the adhesive paste our colours of the wide ranged „Meissen palette“ are optimally suitable; for that it is sufficient to mix well the colours with the crinkle adhesive paste by hand or with a stirring beat.

For the leadfree crinkle the leadfree colors of serie BU should be used.

Orientation recipe:

Crinkle adhesive paste:	about 60 – 70 weight units
Colour powder:	about 40 – 30 weight units

You can achieve a kind of **relief decorations** with multicolouring effect by printing first a Transparent colour and - after it has dried - printing over it a second motive by screening with crinkle adhesive paste and covering it with grains of crinkle enamel.

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A further possibility is given by spreading particles of crinkle enamel on the freshly printed layer of Transparent- or Universal Glass Colours still being wet. To avoid faulty productions you should perform tests under factory conditions for all kinds of decorations.

Crinkle Adhesive Paste

As a crinkle adhesive paste for application by brush, by spraying and by screen printing we recommend:

Crinkle adhesive paste 0424 strongly sticky

Crinkle adhesive paste 0477 medium sticky

Crinkle adhesive paste 0444 medium sticky

For application by spraying the adhesive paste – if needed - can be optionally diluted with turpentine oil or with 0468.

To be visible better the adhesive paste can also be delivered in red tinted form.

Firing

During heating-up process the crinkle colour grains are kept by the rest of the adhesive paste as long until they fuse with the supporting glass.

If heating-up will be performed too slowly, you will risk that the adhesive paste will evaporate too early and the grains will fall down.

If heating up will be performed too quickly, you will risk that residues of the adhesive paste will be in-smelt and produce discolouration.

A firing temperature being too low or a soaking time too short will lead to an insufficient smelting of the grains with the base and the grains can be scratched off.

A firing temperature too high will cause the little grains strongly flow away from each other, so that the decorating effect will be widely lost.

If the particles will smelt to a joined layer, cracks might arise as a consequence of heat tensions.

According to your desire of decorating you can fuse together - more or less - the little glass drops by adjusting different levels of firing temperatures.

In each case you have to adjust the firing temperature, object temperature and firing cycle to the items to be decorated and to the type of kiln.

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In the temperature range up to about 450 ° C – in which organic medias and covercoats decompose – the kiln should exhaust very effective. A fast increase of temperature, short peak time and a slow cooling down is advantageous to the glasses.

Security Advices

Because ceramic colours are chemical products, for processing them you have to consider specific security advices according to the danger substance decree. On the wrappings the informing stickers give notice about the respective dangers.

While processing it is most important to obey the hygienic precautions such as:

- Do not eat, drink or smoke while being at work.
- Do not inhale dust.
- Keep it away from food-stuff, beverage and fodder.
- In case of contact with skin: Wash off and rerinse with water and soap.
- If having inhaled: Rinse mouth with cold water.

For more information please contact us or ask for a Material Safety Data Sheet. (MSDS).

Forms of Delivery

Granulate: Minimum purchase quantity per colour shade:
5 kg

Storage

Crinkle enamels have an unlimited durability if stored in dry condition.

Colour Samples

For the purpose of tests please request samples from us.

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