

Thanet Coatings Ltd

DIAZO & DUAL CURE EMULSIONS

INSTRUCTIONS FOR USE

TCL Emulsions should be handled in subdued daylight or preferably under yellow fluorescent or incandescent lighting at a maximum intensity of 60 Watts at a distance of not less than 2 metres. They must on no account be used in direct sunlight.

• Sensitising:

TCL Emulsions are supplied as a two component product, consisting of a large bucket containing the emulsion and a smaller bottle containing the sensitiser.

Sensitising should be carried out by filling the smaller sensitiser bottle to approximately 50% of its capacity with clean water, replacing the lid and shaking until the sensitiser is dispersed. The solution thus formed is added to the contents of the emulsion container. The sensitiser bottle is rinsed out twice by filling to approximately 25% of its capacity, shaking and adding to the contents of the emulsion container.

* For coarse fabric or for a thicker, more viscous emulsion, mix the diazo with less water. However this causes the emulsion to coat thicker and may require an increase in exposure.

* For a thinner stencil dilute the emulsion. Add the normal quantity as explained above and then add one additional diazo bottle of water into the emulsion and stir well. The emulsion will then coat thinner and may require a decrease in exposure.

The emulsion container is now stirred until the contents are fully homogeneous, this can be done with advantage by using a mechanical agitator. After sensitising, the emulsion should be left for a period of not less than one hour to allow bubbles to disperse, following this the emulsion is ready for use.

• Screen Preparation:

Screens, new or used, must be degreased. We recommend **TC6002 or TC6045 Mesh Preparation Compounds** to prevent static, remove dust and eliminate pinholes and fish eyes, ensuring optimum stencil adhesion. The screens should then be well washed and dried using a fan heater to assist.

Screens should be coated in the normal manner, 1 or 2 coats of emulsion being applied to the underside of the screen and 1 or 2 coats to the top side, all wet on wet is recommended, although it is permissible to use other coating schedules to produce stencils of greater or lesser thickness.

Coated screens should be dried in a near horizontal position in darkness or subdued lighting, care must be taken that dust does not fall on the screen surface. Drying may be assisted by the use of a fan drier, but the air temperature must not exceed 35 °C.

• Exposure:

Correct exposure is most important in obtaining results from TCL Emulsions. It is highly recommended that an exposure guide be used to determine optimum exposure, failing this a "stepwedge" should be carried out.

It is important that the positive be placed with its non emulsion side to the glass of the exposure frame and that the glass be well cleaned. It is also essential that intimate contact be achieved between the glass, positive and screen. This is best done by employing a vacuum frame but for an emergency a sheet of 0.25 inch plate glass with appropriate weighting may be employed.

Exposure depends on the nature of the light source condition, and the distance between screen and light source. Once it has been determined it should not be necessary to vary the exposure unless changes to the relative positions of the light to the screen have been changed. Light source condition should be checked at regular intervals using an appropriate exposure guide.

As a guide the following exposure times are quoted:

LIGHTSOURCE	DISTANCE EXPOSURE Diazo Emulsions		DISTANCE EXPOSURE Dual Cure Emulsions	
	50 Amp Open Carbon Arc	1 Metre	500-800 Secs	
HPR125 Watt Mercury Vapour Lamp	0.5 Metre	200-400 Secs		
1 KW Metal Halide	1 Metre	300-400 Secs	1 Metre	120-180 Secs
2 KW Metal Halide	1 Metre	150-210 Secs	1 Metre	110-150 Secs
3 KW Metal Halide	1 Metre	105-150 Secs	1 Metre	95-120 Secs
5 KW Metal Halide	1 Metre	80-100 Secs	1 Metre	70-85 Secs

Note:

The above figures are based on a yellow monofilament screen, white mesh may take up to 20% less exposure and orange or red mesh could require 20% greater exposure.

• **Development:**

Development should be carried out by first wetting the screen with cold or warm water, very hot water should not be used, after a few minutes the unexposed emulsion should be removed using gentle waterspray. High pressure washing should not be used.

Development is continued until all traces of unexposed material are removed and thus the wash water is completely clean. Immediately after development, remove surplus water with a clean chamois leather or sponge, do not use lint or fibre containing cloths.

• **Drying:**

Lay the screen in a near horizontal position and dry using a fan heater at an air temperature of not more than 40 °C.

Spotting out of small defects may be carried out using sensitised TCL Emulsions followed by re-exposure. For extended runs these products may be increased in durability by post hardening although this process will have an adverse effect on its reclamation properties. After drying the screen is ready for use.

• **Safety Information:**

The emulsions are not hazardous although it is advisable to wear rubber gloves when handling.

The sensitiser is acidic, and care should be taken to avoid skin contact. If skin contact occurs, then wash immediately with copious quantities of warm water. If irritation persists seek medical advice.

The sensitiser causes yellow stains on the skin, these are not harmful and temporary in character.

In case of eye contact, wash with copious quantities of clean water and seek immediate medical assistance.

In case of ingestion, give milk or water, seek immediate medical assistance.

Consult the Health and Safety Sheet on this product before use.

• **Disclaimer:**

While the information in this data sheet is based on sound research, and is believed to be correct, no liability for failure in use of this product can be accepted by Thanet Coatings Ltd., as the conditions under which the product is used are beyond our control.

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