



ISO9002 Certificate No 3607



Glassbond (N.W.) Ltd.

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GRADE K21 CAPPING CEMENT

K21 Lamp Capping Cement has been introduced as an alternative high temperature resistant cement to **K66**, where a more flexible open structured cured cement is required to cope with adverse strain characteristics at the lamp neck. This grade can be supplied with or without '**Malachite Green**' dye incorporated into the powdered cement.

Paste Manufacture - A satisfactory paste can be produced using conventional mixing equipment of the '**Z-Blade**' or '**Hobart**' types by the use of *Ethanol*. The quantity of '*spirit*' required to produce a suitable paste will depend on the type of pasting equipment used, but as a guide, approx. 8 litres of spirit is required per 100Kgs cement powder.

If the fugitive dye is to be incorporated at the mixing stage, this may be predissolved in the spirit prior to mixing with the cement powder.

Paste Characteristics - The paste, so produced, can be used in automatic cap pasting machines of the pressurised or non-pressurised type. Some adjustment of paste viscosity is normal from one lamp manufacturer to another to suit his particular applications. This is achieved of course, by slight variation in the Ethanol content.

1. **Storage Life** - The paste will be suitable for use from 2 hours after initial mixing up to 48 hours, when stored under normal temperature and humidity conditions.
2. **Curing Time** - To produce optimum bond strength between cap and glass, the cement has to be cured adequately. In general, the higher the temperature achieved on the cap during lamp manufacture, the shorter the time required, e.g. at 200 °C the time to cure should be 40 - 50 secs., whilst at 140 °C this may extend up to 1 - 1½ minutes. Over baking above 200 °C should be avoided, since this reduces the torque strength of the bond.

Packaging - The material can be supplied in 25Kgs cardboard boxes or paper sacks, normally 40 per tonne pallet, 50Kgs fibre kegs or 125Kgs steel drums as required. In all cases a polythene liner is used.

Shelf Life - **K21** Lamp Capping Cement powder has an indefinite shelf life when stored in cool dry conditions.



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SHEET 1 OF 2

SPEC. NO. GBS 21 ISSUE 1

PRODUCT SPECIFICATION

MATERIAL	Lamp Capping Cement														
GRADE	K 21														
TYPE	Silicone modified phenolic resin based powder with Malachite Green dye														
APPLICATION	High temperature resistant G.L.S. Lamps														
PHYSICAL CHARACTERISTICS	Off white fine powder														
CHEMICAL COMPOSITION	<table border="0"> <tr> <td>Phenol/formaldehyde novolac resin)</td> <td>Approx</td> </tr> <tr> <td>Hexamethylene tetramine curing agent)</td> <td>18 - 20%</td> </tr> <tr> <td>Rosin)</td> <td></td> </tr> <tr> <td> Silicone Resin)</td> <td>Approx</td> </tr> <tr> <td></td> <td>2 - 3%</td> </tr> <tr> <td> Calcium Carbonate filler)</td> <td>Approx</td> </tr> <tr> <td>Malachite Green Dye)</td> <td>78 - 80%</td> </tr> </table>	Phenol/formaldehyde novolac resin)	Approx	Hexamethylene tetramine curing agent)	18 - 20%	Rosin)		 Silicone Resin)	Approx		2 - 3%	 Calcium Carbonate filler)	Approx	Malachite Green Dye)	78 - 80%
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Malachite Green Dye)	78 - 80%														
PASTE CHARACTERISTICS	400 grams K21 + 30 mls 94/95% Ethanol														
APPEARANCE	Smooth lump free green paste														

ISSUE NO										
ISSUE DATE										
APPROVED TECH										
APPROVED MANU										
APPROVED QC										

Directors, R.L. Hughes. C Chem, M.R.S.C. D. J. Randell M.P.R.I.

Glassbond (N.W.) Ltd. Registered Office, West Side Industrial Estate, Registered No 1378679 England

