

CRYSTIC[®] ACCELERATORS

Caution: Catalysts and accelerators must not be mixed directly together as they can react with explosive violence.

INTRODUCTION

Most polyester resins are now available pre-accelerated but some still require a separate accelerator addition. Pre-accelerated vinyl ester resins tend to exhibit lengthened geltimes after a relatively short storage period, so separate accelerators are still preferred for these. To gel and cure satisfactorily, most vinyl ester resins require the presence of both cobalt and amine accelerators.

Varying the catalyst level offers users limited flexibility in resin pot life and ability to correct for working temperature fluctuations. However, only a narrow range of catalyst levels may be used (usually 1-3%) without running a risk of undercure. Increasing or decreasing the catalyst level often only results in a small change in geltime. Accelerators, on the other hand, allow much more flexibility in geltime setting, because varying their level has a much greater effect on geltime than varying the level of catalyst does. Long geltimes are better achieved by using low levels of accelerator whilst retaining a full 2% catalyst loading, although care must be taken to ensure that the reaction is sufficiently vigorous to result in satisfactory cure.

Many chemical compounds will act as accelerators for polyester and vinyl ester resins but those most commonly used are based on cobalt soaps or tertiary amines. Accelerators are supplied in liquid form. Scott Bader offers the following accelerators:

Crystic[®] Accelerator E

This is a 0.4% solution of cobalt soap dissolved in styrene. Recommended addition levels are between 1% and 4%.

Crystic[®] Accelerator G

This is a 1.0% solution of cobalt soap dissolved in styrene. Recommended addition levels are between 0.5% and 2.0%.

Crystic[®] Accelerator R

This is a 6% solution of cobalt soap dissolved in styrene. It is used where large accelerator addition levels are required to minimise dilution of resins.

Crystic® Accelerator W

This is a 0.4% cobalt accelerator, which also contains wax. It is designed for use with air-inhibited resins. Addition levels should be between 1% and 4%.

Crystic® Accelerator D

This is a solution of dimethyl aniline (DMA) dissolved in styrene. It is normally used in conjunction with Benzoyl Peroxide catalyst to achieve rapid cure at room temperature (18°C – 20°C). It is also used in conjunction with Accelerator G to give rapid cure at room temperature in vinyl ester resins. DMA is also supplied as the pure material for use when accelerating large volumes of resin.

Crystic® Accelerator VE

This is a mixed cobalt/amine accelerator designed for use with vinyl ester resins. It contains 2.5% of cobalt soap and 10% dimethyl aniline. To ensure satisfactory shelf life it is supplied as a solution in methanol. Addition levels should be between 1% and 4%.

STORAGE

Accelerators should be stored in the dark in their original, closed containers. The storage temperature should not exceed 20°C. Ideally, containers should be opened only immediately prior to use. If recommendations are followed, a storage life of 6 months may be expected.

PACKAGING

Cobalt accelerators, **Crystic® Accelerator VE** and **Crystic® Accelerator VE** are available in 4kg and 18kg containers.

HEALTH & SAFETY

Please see separate Material Safety Data Sheets.

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Before you use this information, kindly verify that this data sheet is the latest version.

All information is given in good faith but without warranty. We cannot accept responsibility or liability for any damage, loss or patent infringement resulting from the use of this information.



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