K-KAT® 670

Non-tin catalyst for silane terminated polymers

K-KAT 670 is an excellent catalyst for crosslinking of silanated polymers, end-capped with dimethoxy, trimethoxy or diethoxy silane groups.

- Highly effective to replace tin
- Excellent for diethoxysilane
- Eliminates methanol emissions

Typical Properties	
Appearance	Light, amber liquid
% Active	100
Specific Gravity, 25°C	0.94
Typical Use Levels	
0.1% to 3.0% as supplied based on TFW	

Performance

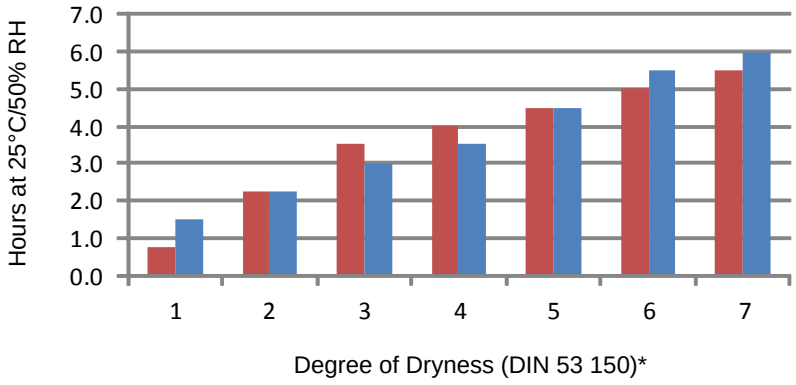
Dryness Development

K-KAT 670 demonstrates activity that is similar to tin catalysts in dimethoxysilane and trimethoxysilane polymer systems.

2.0% K-KAT 670

0.5% DOTDAA

Dimethoxysilane Formulation

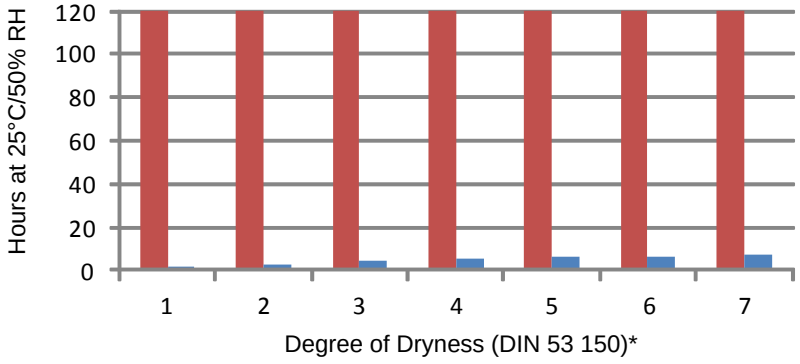


K-KAT 670 catalyzed the crosslinking reaction of a non-methanol emitting moisture cure organosilane system based on diethoxysilane polymer, while tin catalysts were essentially not active at levels that doubled the maximum tin concentrations allowable in current EU regulations.

2.0% K-KAT 670

0.5% DOTDAA

Diethoxysilane Formulation



*** Degree of Dryness (DIN 53 150)**

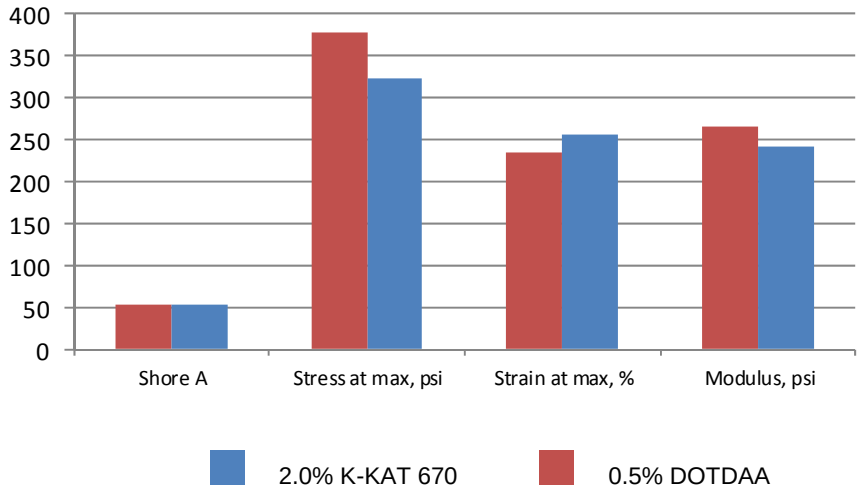
1	Touch dry, no visible residue remaining on rubber glove
2	Paper does not adhere, but visible change with 20g load
3	Paper does not adhere, but visible change with 200g load
4	Paper does not adhere, but visible change to coated surface with 2Kg load
5	Paper does not adhere, no visible change to coated surface with 2Kg load
6	Paper does not adhere, but visible change to coated surface with 20Kg load
7	Paper does not adhere, no visible change to coated surface with 20Kg load

Mechanical Properties

After 2 weeks ambient cure, the Dimethoxysilane (DMS) system gave a Shore A hardness of 52 for both the DOTDAA and the K-KAT 670 catalyzed systems. The 0.5% DOTDDA used represents the upper limit for tin use, without hazard labeling in Europe. After 2 weeks the mechanical properties for the cured DMS system gave very similar tensile strength, elongation and elastic modulus for both catalysts.

Dimethoxysilane Formulation

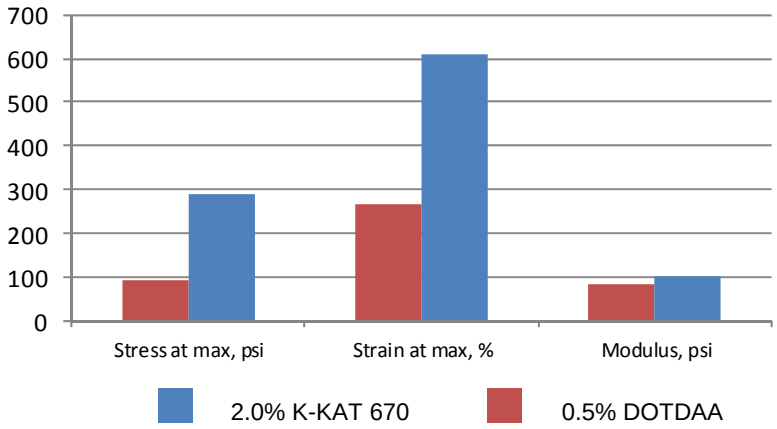
Mechanical Properties After 2 Week Cure



After 2 weeks ambient cure, the Diethoxysilane (DES) system gave a Shore A hardness of 48 for the system catalyzed with K-KAT XK-670. The DES system catalyzed with 0.5% DOTDAA only gave a Shore A hardness of 22, after a 1 month ambient cure. The mechanical properties for the DES system catalyzed with the K-KAT 670 after 2 weeks are far superior to those of the system catalyzed with DOTDAA, even after a month ambient cure, especially for tensile strength and elongation.

Diethoxysilane Formulation

Cured Mechanical Properties*



*Cure Schedule for Full Cure: K-KAT XK-670: 2 week; DOTDAA: 1 month

Contact Information

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