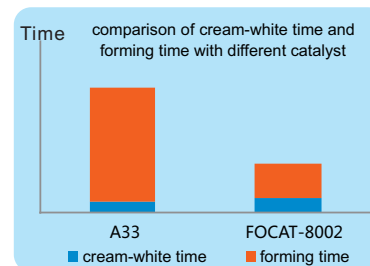


8. Application in Polyurethane Shoe Material

8.1 Catalyst for Sole Liquid

Recommended products : FOCAT-8002

- ◆ Used for foaming sole, it has longer milky time than A33, but shorter forming time.
- ◆ Improve production efficiency and reduce comprehensive cost.



8.2 Catalyst for Shoe Adhesive

Recommended products : AUCAT-1301, Organic Bismuth BCAT Series, Organic Zinc ZCAT Series

AUCAT-1301 is recommended for synthetic adhesive for shoes, with the following characteristics:

- ◆ It does not contain tin and is environmentally friendly, ensuring that it meets the stringent requirements of environmental protection regulations at home and abroad.
- ◆ The reaction viscosity of the resin increases rapidly, the synthesis time is shortened, and the process stability is the same as that of organic tin. Solve the problems of low catalytic activity of organic bismuth, slow increase in viscosity or even failure in viscosity (slow increase in molecular mass or even failure to produce resin of high molecular mass). When synthesizing adhesive resin for shoes, the Rod-climbing time is accurate and stable, and the production efficiency is the same as that of organic tin.
- ◆ The catalytic activity is close to that of organic tin, more than 20 times higher than that of organic bismuth. The dosage is slightly higher than that of organic tin, but only one tenth of that of organic bismuth. In fact, even if the dosage of organic bismuth is increased, the activity is still significantly insufficient.
- ◆ It does not affect the transparency of polyester resin.



8.3 Catalyst for KPU Vamp Rubber

Recommended products : CUCAT-SW02D, CUCAT-T30

- ◆ It does not contain tin and is eco-friendly, meeting the requirements of export regulations and foreign first-line brand shoe enterprises.
- ◆ No bubbles: effectively reduce CO bubbles generated by the reaction between moisture and isocyanate, and avoid quality problems such as bubbles and cracking. T30 is less sensitive to moisture. If W20 collocates with T30, the foaming phenomenon under high temperature and high humidity conditions can be greatly reduced.
- ◆ Low viscosity, long flow period, no fracture of fine glue filament: The initial viscosity of mixed material rises slowly and has good fluidity. It can quickly fill the complex mold cavity to ensure the continuous gluing of micro patterns.
- ◆ Fast post curing speed: The strength increases rapidly after gelation, which can increase the production efficiency. The strength increased even faster after gelation if collocates with T30.



8.4 Catalyst for Soft Rubber Insole, Raised Heel

Recommended products: organic bismuth zinc (BCAT, ZCAT, BX series), AUCAT-101, AUCAT-201, etc.

- ◆ Organic bismuth control gel time and catalyze the rapid growth of polymer chain. As an auxiliary catalyst, organic zinc can speed up the post curing and shorten the molding time
- ◆ The combined use of bismuth and zinc can adjust the gel and molding time according to the formulation and process requirements.
- ◆ AUCAT-101/201 are reactive catalysts with catalytic characteristics similar to bismuth / zinc catalyst, but they are grafted to polyurethane macromolecules in the final reaction, that is why they will not produce odor, while the free state of organic bismuth and zinc catalyst in the product will emit odor. 101/201 can be premixed with polyol components in advance and stored stably without inactivation, while the pre addition of bismuth and zinc will gradually hydrolyze and inactivate, which must be added and used on site, and it is inevitable that the curing will be slower and slower due to the gradual failure of the catalyst under the working conditions of high humidity and high temperature in summer. Organic bismuth / zinc catalyst will cause fogging and whitening to some transparent products after a period of time and lose transparency, while AUCAT-101/201 can avoid the problems of reducing transparency, fogging and whitening.



8.5 Catalyst for transparent PU Rubber on the outer layer of sole

Recommended products) : AUCAT-K7, CUCAT-DG02, CUCAT-T30

- ◆ No bubbles: effectively reduce CO₂ bubbles generated by the reaction between moisture and isocyanate, and avoid bubble defects.
- ◆ Reduce blackening and discoloration: solve the problem of gradual discoloration and blackening after ordinary catalyst contacts the rubber sole.
- ◆ Long flow period, fast forming, improve production efficiency.
- ◆ It is environmentally friendly and does not contain mercury / lead / tin, meeting the requirements of export regulations and foreign first-line brand shoe enterprises.

