SiSiB® PCA-25 Platinum-Catalyzed Curing Agent

INTRODUCTION

Silicone rubber can be vulcanized (or cured) using several methods, with the most common being the use of an Organic Peroxide vulcanizing agent. Di(2,4-dichlorobenzoyl)peroxide is commonly used for extrusion, while 2,5-Dimethyl-2,5-di(tert-butylperoxy)hexane dicumyl peroxide is used for molding.

An alternative, more efficient curing system is platinum-Catalyzed Curing Agents, which offers faster vulcanization speeds and superior mechanical properties compared to peroxide curing.

SiSiB® PCA-25 is a two-component platinum-catalyzed curing agent. It is a pasty platinum catalyst masterbatch used to vulcanize high-consistency rubber (HCR).

COMPONENTS

A: Platinum Catalyst, vinyl silicone gum
B: Inhibitor, silicon dioxide, crosslinker, vinyl silicone gum

KEY FEATURES

- Post curing is not required.
- No odor or flavor is produced (e.g. for food-contact applications)
- No volatile peroxide by-products are released.
- Meet ROHS, FDA, and LFGB requirements.
- Transparent articles do not discolor.
- Fast curing, resulting in shorter cycle times.
- Improved tensile strength, tear strength, and resilience.

PHYSICAL PROPERTIES

Component A	Colorless transparent gel
Component B	Colorless transparent gel

APPLICATIONS

SiSiB® PCA-25 is a pasty platinum catalyst masterbatch used to vulcanize high-consistency rubber (HCR). This curing process ensures that there is no odor or taste, making it suitable for food contact applications. It also prevents the release of volatile peroxide by-products, ensures clear articles do not discolor during post-cure, provides a fast cure for shorter cycle times, and allows for easy demolding of cured products with a dry surface.

PROCESSING

Place the silicone rubber base in a mixer and mix until it softens. Add the

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color additive during this process.

Add component B at a ratio of 0.5-0.8%, and continue mixing until uniform.

Add component A at a ratio of 0.25-0.35%. Once the mixture is uniform, it can be sheeted or used for molding or extrusion.

Inhibitor should be well dispersed before Catalyst is added. Component B should be added first, followed by component A.

When adding curing agents, ensure the mixer roller temperature does not exceed 40°C. If the temperature exceeds 40°C, do not add the curing agents until it has cooled down.

The recommended vulcanization temperature for molded products is 130-150°C. For extruded products, the optimal temperature should be determined based on the specific application.

PACKING

SiSiB® PCA-25A/B is available in 1Kg bottle and 20Kg pail.

STORAGE

In the unopened original container, SiSiB® PCA-25 has a shelf life of 12 months in a dry and cool place.

SiSiB® PCA-25A/B should be packaged separately in sealed bags in plastic cans and avoid direct sunlight.

SiSiB® PCA-25A will turn black when exposed to air for a long time. It is recommended to be refrigerated.

To prevent the volatilization of inhibitors in SiSiB® PCA-25B from causing dead glue during use, SiSiB® PCA-25B must be sealed and refrigerated.

TIPS

Catalyst poisons can inhibit the curing process. To prevent this, avoid contact with substances containing nitrogen, phosphorus, sulfur, or heavy metals. Amines and sulfur compounds are common in organic rubber systems.

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As a result, always store and process platinum-catalyzed silicone rubbers separately from organic rubbers. Additionally, ensure roll mills and processing machinery are thoroughly cleaned to avoid cross-contamination. Components B are susceptible to scorching if stored above 40°C.

HANDLING

This document does not contain the product safety information required for safe use. Before handling, please refer to the product and safety data sheets, as well as container labels, for information on safe usage, physical hazards, and health risks. Safety Data Sheet is available on the website, from the distributor, or by contacting SiSiB customer service.

NOTE

All information in the leaflet is based on our present knowledge and experience. We reserve the right to make any changes according to technological progress or further developments. Performance of the product described herein should be verified by testing.

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