

SENOTHERM® 1664 Paint

Coating material offering temperature resistance up to approximately 1200°F.

PRODUCT DESCRIPTION

SENOTHERM- 1664 is characterized by low solvent content and is based on modified, temperature resistant Silicone resin combinations with temperature-resistant pigments.

Coatings of this type offer corrosion protection, allow easy processing, and exhibit good appearance on vertical surfaces without sagging. The coating material dries physically at room temperature. However, optimum mechanical properties and final characteristics are obtained only after curing which occurs when the product is heated for at least 30 minutes at 500°F. Due to the formulation of this product, there is virtually no change of gloss and color, even at continuous temperature exposure of approximately 1200°F.

On first use, when the coating is subjected to high temperatures, a chemical reaction in the coating occurs. It is technically unavoidable that an unpleasant odor and fumes are temporarily produced when a coated item is heated for the first time. Having been fully heated up to operating temperature this chemical reaction will no longer occur.

We recommend to mark coated items as follows:

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“When heated for the first time an unpleasant odor and fumes are normal. Please use only with adequate ventilation. Open windows and doors, and if necessary use a fan for improved ventilation. Operate this device at its maximum operating temperature for at least one hour. If the maximum temperature is not achieved an unpleasant odor may continue during use.”

SENOTHERM® 1664 can, even after air drying or baking, be re-coated with a second application.

ATTENTION: IF THE COATING THICKNESS IS TOO HIGH, CRACKING AND OR PEELING MAY RESULT.

TYPICAL FIELDS OF APPLICATION

Ideal decorative coatings for stoves, chimneys, grills, stovepipes, accessories for the stove industry, burn chambers and other appliances subjected to high thermal stress.

NOTE: THIS COATING IS NOT SUITABLE FOR DIRECT FOOD CONTACT.

PROCESSING INSTRUCTIONS

1. Storage and Preparation of Coating Material

1.1 Storage

Material should preferably be stored at temperatures between 60°F and 77°F. The warehouse should meet official regulations regarding storage. Storage should further be organized according to the principle first in -first out, so that older batches are processed first.

When planning coating jobs, it should be taken into consideration that the color and gloss from different batches may vary slightly. For this reason coating of diverse parts of one product should - if possible - only be coated with coatings out of one batch.

If shelf life of the coating has expired (6 months from manufacturing date), the paint must be inspected to determine whether it is still suitable for use. Criteria important for use are: viscosity, a smooth and homogeneous surface as well as color of the sample coating.

1.2 Handling

Prior to processing material must be brought to room temperature and stirred thoroughly. High-speed stirrers are preferred. Slower speed stirrers - common in many pressure pots may be not suitable for adequate homogenisation. Depending on application conditions, the material is normally processed as supplied. Dilute with Xylene if necessary. However, viscosities below **XX** seconds in a Zahn #3 cup should be avoided, as the tendency for sagging increases.

In order to obtain the highest quality appearance the paint should, prior to application, be filtered through a sieve with size of 150-200 µm (80-100 Mesh) to remove potential dried coating particles from the coating. If the application system used is equipped with a pre-filter, this step can omitted.

2. Coatings Application Methods

SENOTHERM[®] 1664 can be successfully applied using a variety of application methods. Generally, this coating is applied using conventional high-pressure air atomization, HVLP, or air-assisted electrostatic spray. Application by means of brush, dip and flow coating is not recommended. All application materials which come into contact with the coating (e.g. hoses, seals, etc.) must offer sufficient resistance against aromatic hydrocarbons as such Xylene. All application equipment should be cleaned with xylene or other suitable solvent prior to use with another coating material.

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3. Substrates

The following substrates are suitable for use with this coating material: aluminum, steel, stainless steel as well as temperature-resistant materials such as aluminized steel, chromated steel and Galvalume[®]. The specific kind and quality of pretreatment has a considerable influence on the quality of the final and durability.

The attached list indicates possible combinations of substrates and pretreatments. As a rule abrasive pretreatments lead to better mechanical properties, however, minimum necessity is at any rate a clean, metallically pure substrate that is further free from grease. Corrosion products (layers of rust or mill scale etc.) must be completely removed prior to application.

As the requirements, depending on the end use, vary considerable, each new material and processing combination should be tested with respect to its suitability for the respective application prior to use. As a rule, substrates should - after pretreatment - be coated as soon as possible in order to avoid belated contamination, the formation of oxide layers and the additions of humidity. If an intermediate storage is necessary, items should be stored in tempered rooms with only insignificant temperature changes, to avoid the formation of water of condensation.

4. Processing

If possible, application should be made under constant conditions, such as, room temperature and humidity. As this is often not fully feasible, viscosity of the coating material must be adjusted under consideration of the changed conditions. As an example, processing 60°F requires a higher addition of thinner than an application at 77°F. At the same time, wet film thickness applied must be adjusted according to the quantities of solvent added. For example, if 5% thinner is added, the wet film thickness applied must be raised by 5% compared to the original value indicated in the data sheet, in order to obtain the recommended dry film thickness.

For conventional high-pressure atomization nozzle sizes of 1 - 2 mm with atomizing pressures of 2 - 5 (30 - 70 Psi) can be used. Apart from spraying, material also allows application by means of brush or roller coating. If these methods are used, particular attention should be paid to even application

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5. Cure

SENOTHERM® 1664 can be air dried and baked. The coating only reaches full properties after first firing at temperatures greater than 500°F. In order to immediately achieve full hardening and optimum strength of the finish, the coating should be flashed off for 15 minutes at room temperature and then cured at 500°F part temperature for 30 min. During this initial curing, some smoke and an unpleasant odor is normal. Following initial use the smoke and odor will no longer be present.



The process of flash-off or cure can be done in chamber furnaces or via in-line stoves, of course only on condition that these meet official regulations. Flash-off should be for 15-30 minutes at recirculated air temperatures of 68°F, up to a maximum of 200°F. As inflammable solvents evaporate during this process, ventilation should be adjusted to the quantity of solvents exposed (drying lines for coating materials) in order to avoid the formation of an explosive solvent mixture. For achieving optimal properties of the coating system, actual cure takes place at a metal temperature of 500°F for 30 minutes. Again, good ventilation is necessary in order to remove reaction products of the chemicals contained in this coating.

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6. Substrate

Substrate	Pretreatment	
Sheet Metal	Degrease	Conditional Suitability
	Degrease & Phosphate	Conditional Suitability
	Degrease & Sandblast	Suitability
Cast Iron	Degrease & Phosphate	Conditional Suitability
	Degrease & Sandblast	Suitability
	Degrease	Conditional Suitability
Aluminized Steel	Degrease & Chromate	Conditional Suitability
Hot Dip Galvanized Steel	Degrease	Conditional Suitability
Galvan (45% - 95% Zn)	Degrease	Conditional Suitability
	Degrease & Chromate	Conditional Suitability
Rolled Aluminum	Degrease & Chromate	Suitability
	Degrease & Caustic Wash	Suitability
	Degrease & Sandblast	Suitability
Cast Aluminum	Degrease & Polish	Suitability
	Degrease & Sandblast	Suitability
Stainless Steel	Degrease	Conditional Suitability
	Degrease & Chromate	Conditional Suitability
	Degrease & Sandblast	Suitability
Non-Glazed Ceramics	Degrease	Conditional Suitability

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