# ST-1509S-6102&ST-1909S-9202&ST-3760M-8002

# Technical Data

## 1. Introduction

1.1 Product features

ST-1509S-6102/ST-1909S-9202/ST-3760M-8002 is a kind of non-stick coating based on PAEK resin and PTFE resin with high-performance of corrosion resistance, scratch resistance and high hardness.

1.2 Main applications

The film obtained can be widely used for kitchen utensils, household appliance or other workpiece with superior quality features. For example, rice cookers, fry pans, Chinese woks, grills, irons, baking pots and so on.

The highest temperature for continuous use is 260˚C.

1.3 Packaging unit

5kg，18kg

## 2. Physical properties

| Item | Primer | Middle | Top | Comments |
|---|---|---|---|---|
| | ST-1509S-6102 | ST-1909S-9202 | ST-3760M-8002 | |
| Appearance | Gray Liquid | Black Liquid | Metallic Milk White Liquid | Visual inspection |
| Solid content (mass%) | 23.0 | 32.4 | 42.9 | 230℃×30min→ 380℃×30min |
| Viscosity (cP) | 86 | 405 | 210 | Rotating viscosimeter |
| pH | 7.8 | 9.5 | 9.1 | pH meter |
| Shelf life | 6months | 3months | 6months | —— |

◆ Test values, not specifications.

## 3. Processing technique

✧ **Please operate the whole process using clean compressed air in tidy environment, because the dusts in atmosphere and the oil and water in compressed air will result in small dots or rusty spots.**

✧ **Preheat the workpiece in proper conditions to avoid dewing when the workpiece is too cold or the humidity is too high.**

✧ **The temperatures mentioned below represent bulk temperature。**

3.1 Pretreatment of workpiece

3.1.1 Degreasing

Degrease the surface of workpiece using baking or degreasing solvent to clean oil and dusts.

Baking workpiece 10min above 380˚C is recommended and the specific conditions depend on workpiece and request of guests.

3.1.2 Surface roughening

Sandblast the surface to a consistent 2.0~3.5μm roughness (Ra value) using 60#~100# alumina sand emery in case

 

of aluminum workpiece. Then clean the surface by air blow.

3.2 Pretreatment of coating

The coating must be dispersed at 50~100rpm for 50~30min only for Primer, and at 30~50rpm for 50~30min for middle and top coat. Please check there is no residues on the bottom before filtering only for Primer. Filtered by filter screen, 200 mesh for middle coat and 150 mesh for top coat are recommended. The primer needn't be filtered.

- The coating must be sprayed immediately after thoroughly dispersion.

3.3 Preheating of the substrate material

It is necessary to preheat the substrate material at about 40~50℃ before spraying.

3.4 Spray of primer

Spray ST-1509S-6102 to the thickness of 60±20μm. Too thin film thickness will result in poor anti-scratch property and poor raised appearance. Spray gun caliber 1.3mm is preferred. To avoid settlement, continuous stirring at 20-30rpm when spraying primer is recommended. The atomizing pressure is 0.2~0.3Mpa when spraying.

3.5 Drying and sintering of primer

Dry the primer at 120~150℃ for 10~15min as soon as possible after spraying. If drying is not enough, coated film may have poor corrosion resistance, bubbling or abnormal appearance. then sintering at 380℃ for 15~20min.

3.6 Spray of middle coat

After the primer has been sintered and cooled to 30~40℃, spray middle coat ST-1909S-9202 to the thickness of 15±5μm. The atomizing pressure is 0.2~0.3Mpa when spraying.

3.7 Drying of middle coat

Dry middle coat at 120~150℃ for 10~15min as soon as possible after spraying.

3.8 Spray of top coat

After middle coat has been dried and cooled to the room temperature, spray the top coat ST-3760M-8002 immediately to the thickness of 15±5μm.

3.9 Drying and sintering of top coat

Dry the top coat at 80~120℃ for 10~15min as soon as possible after spraying，then sintering at 380~400℃ for 10~15min.

Attention: Total dry film thickness should be controlled in 60~120μm.

Attention: The temperature mentioned above is the temperature of the substrate.

## 4. Precautions in handling

4.1 Ordinary handling

- The working area should be adequately ventilated at all times. Local ventilation is necessary in the heating process (drying and sintering over 100℃), because the containing surfactants begin to be decomposed by heat higher than approximate 200℃.
- Maintain equipment regularly (cleaning and exchange) because the decomposed material will accumulate in oven or exhaust duct which is flammable.
- Put goggles and gloves for protection while handling.
- Smoking should be prohibited in working area, since smoking tobacco contaminated by fluoro polymer may

result in inhalation of decomposed gas. Do not bring tobacco in the working area.

- Wash hands and face well after handling.
- Store in a cool and dry place (5~30˚C). The case higher than 30˚C must be avoided because coagulation and precipitation will occur. And avoid freezing under 5˚C, this product cannot be used after being frozen.
- Roll the container once a week in order to keep product from coagulating.
  Rolling condition: 30~50rmp×30~50min

4.2 Storing conditions

- Keep containers tightly sealed
- Keep away from direct sunlight.
- Be careful to avoid freezing during winter.

4.3 Disposal

Do not release coating into waste water systems. Place it in specially designated container for disposal. Add a coagulation agent (such as nitric acid) to separate the mixture into resin and water, and dispose of the resin portion only through a licensed industrial waste disposal company.

## 5. Handling emergencies

5.1 IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

5.2 IF ON SKIN: Wash with plenty of water and soap thoroughly. If skin irritation occurs: Get medical advice/attention.

5.3 If INHALATION (spray mist or gases from the sintering oven): Move the operator immediately to fresh air, and then seek medical advice.

## 6. Disclaimer

- The product is for the industrial use only. We do not guarantee the safety in case the product is used for the other purposes. When using the product for health-care application or food/feed contact application, consult us in advance. This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
- This data sheet contains the best and latest of our knowledge on the data of issue on laboratory testing and practical application experience, and subject to change without notice. Since the paints are used under unexpected circumstances in some cases, guarantee can not be given except on the quality of those paints themselves.

 