



Ceramic Coatings

C-109 Water based black two layer ceramic non-stick coating

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DESCRIPTION	C-109 is two layer black ceramic coating, smooth hand feeling, excellent surface performance and chemical resistance. Superior initial non-stick property, easy to clean. It's ideal for internal coating and external coating of frying pan, stock pot, baking tray, electric fry pan and inner pot of electric cooker etc.	
TYPE	Ceramic nano material	
KEY FEATURES	 PFOA free and excellent heat resistant Excellent and lasting non-stick performance, easy to clean Excellent chemical resistance, corrosion resistance and abrasive resistance 	
TYPICAL PROPERTIES	Appearance	Black liquid (C-109P Primer/C-109T Top)
	Solid content (%)	35±1
	Viscosity (cp)	600~900 Primer 400~700 Top
	Density (g/ml)	1.20 Primer/1.30 Top
	pH	8-11(Primer and top)
	Color of the film surface	Black (Flat and smooth)
	Curing temperature (°C)	280-300
	Gloss (60° glossimeter)	10-20
	Film thickness (μm)	34-50
	Non-stick performance Fry eggs at 170±10℃	>8 cycles
	Corrosion resistance Boling 10% salt water for 24 hours	No blister
	Abrasion resistance 3KG/21cm ²	>4000 cycles
	Hardness (ZHONGHUA pencil)	>6H
APPLICATION	• Internal coating and external coating of frying pan, stock pot, baking tray, fry pan and inner pot of electric cooker etc.	
STORAGE AND HANDLING	 Available in 20 kg/ barrel or 30 kg/ barrel Store products in tightly closed original containers at 5-35°C Shelf life: 6-9 months from delivery date According to non-dangerous goods transport 	

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1. Requirement on pre-treatment

- Firstly, apply high-temperature degreasing, then wash with 1%~3% NaOH solution (60 °C) for more than 6 minutes, dry it after water rinsing;
- Blast with 80#~120# corundum to make the surface roughness reach 2.0μ~3.0μ, pay attention to sandblast evenly;
- Wash with 1%~3% NaOH solution(60 °C) for more than 6 minutes, rinse with water;
- Wash with 1%~3% hydrochloric acid solution (60 °C) for more than 6 minutes, rinse with water and dry.

2. Mix coating

- Before mixing (maturing), the best condition of coating is at the temperature of 20°C (refer to the storage in the following);
- Before using, fully stir or roll component A at the speed of 120rpm~200rpm for more than 30min until there is no precipitation;
- Add component B to A, roll with hands for 5~10 seconds till feel the bottle is warm, than roll the coating with rolling machine at the speed of 90~120 rpm. 20 °C is the best mixing temperature. Mix rolling for 4~8 hours. Add component C and roll evenly before using;

HOW TO USE

- Deflate the air to avoid pressure since there is heat generated during the mixing process. Watch out the gas or liquid may get sprayed when open it;
- Use the coating within its warranty (refer to the storage of coating). To prevent the coating from expiring, we recommend using it within 24 hours and calculating the needed amount before mixing the components. So it is better to calculate the needed quantity according to the production plan before maturing.

3. Application

- The spraying environment should be dry, well-ventilated, no smoking and fire. We suggest using dedicated spray gun, elevated tank and curing oven;
- The air compressor should be degreased, dewatered and equipped with water oil separator before using;
- Roll the coating at 30rpm speed before using to make sure there is no sediment, and filter with 100 mesh screen;
- Adjust atomization and oil pump capacity of the spraying gun; make sure the unit is clean and flat;
- Preheat the substrate to 35 °C and spray the primer. Dry it at temperature of 120 °C ~150 °C for 10min-15min. Keep the thickness of primer within 15 μ m-22 μ m;

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- Spray top coating after the primer is dry and cooling to room temperature, then spray the top. Dry the unit at the temperature of $100 \,^{\circ}\text{C} \sim \! 150 \,^{\circ}\text{C}$ for $10 \, \text{min}$, and gradually increase the temperature to $280 \,^{\circ}\text{C} \sim \! 300 \,^{\circ}\text{C}$. Keep for $10 \, \text{min}$. Keep the thickness of top coat within $12 \, \mu \text{m} \sim \! 20 \, \mu \text{m}$. The thickness of two coat tally should be between $30 \, \mu \text{m} \sim \! 40 \, \mu \text{m}$;
- The oven (or the tunnel drier) must be well ventilated; otherwise, it will lead to color change of coating.

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