

## Technical Data Sheet

### **AHA1053**

#### **Additive for bonded metallic effect powder coatings**

#### **Description**

**AHA1053** is a wax additive used in metallic effect powder coatings during bonding processing. The use of this product will be able to help orientation of metallic pigments, improve flip-flop effect and increase  $T_g$  of final coating powders as well as decrease dosages of these precious metallic pigments, esp. aluminum powder.

#### **Typical physical data**

Appearance	[visual]	loose fine white powder
Particle size distribution (Dv50 in $\mu\text{m}$ )		<3.0
Melting range ( $^{\circ}\text{C}$ )		Ca.140

*Herein described to be typical properties and do not constitute specification limits.*

#### **Application**

**AHA1053**, as an orientating agent of metallic pigments, is widely suitable to all typical powder coatings like as hybrid, TGIC and so on. However, it is specially recommended to use in bonding processing in order to increase bonding efficiency, improve brilliance/luster and strengthen flip-flop effect as well as decrease dosages of these precious metallic pigments.

#### **Advantages:**

- Facilitate to metallic pigments orientation
- Enhanced processing temperature during bonding process
- Improved flip-flop effects on metallic-like film surface
- Reduced dosages of metallic pigments
- Increased heat and humidity resistance and salt spray

To adjust the use levels and fineness of product may strengthen and achieve the optimization, it is necessary to carry out laboratory test for each specific application. In principle, higher dosage and less fineness may affect dramatically metallic brilliance uniformity at different viewing angles, but such influence is too complex for us to be able to give detailed recommendations here.

#### *Notice:*

*The key technical data or specifications for the above product described in this paper may be changed from time to time due to improvement constantly. **AHA** reserves the right to change the specifications of its products without prior notice.*

Although the information in this paper is based on our own investigation and is believed reliable, **AHA** can not assume any responsibility for performance or results obtained through the use of our products herein described. Neither we nor our agents shall be liable for any injury, loss or damages directly or indirectly caused by our products. The user is held to check the quality, safety and all other properties of our product before using. Nothing herein is to be taken as permission or recommendation to practice any patented invention without a license.

---

**Use level**

Approx. 0.8-1.5% by weight, calculated on total formulation;

Approx. 5-25% by weight, calculated on the metallic pigment, depending on surface finish desired.

---

---

**Use instruction****1) The preparation of base powder**

**Base powder** must be prepared by extruder in advance and its  $T_g$  is required to do precise measure, such as by DSC.

**2) Bonding processing**

i) The above resulting base powder is fed into the masterbatch mixer in a proper bonding mixing system, such as a combination composed of a Cooler Mixer and a Masterbatch Mixer from Henschel, warmed to temperature coming as very close to  $T_g$  of powder, such as about 55°C by self-powder friction under fast stirring condition;

ii) Just at this point AHA1053 additive and metallic pigment are together incorporated into above masterbatch mix bowl and stirring continually, then bonding for 15-25min until metallic pigment has completely adhered to resin at keeping temperature constant by each cooler unit such as water bath jacket, the drive shaft and mixing tool.

**3) Cooling**

The resulting bonded powder is discharged downstream into the cooler bowl and forced to cool down temperature less than 25°C under low stirring condition. In order to prevent lump or agglomerate, if desired, at this stage dry powder flow aid may be added into the finish powder to dry blending, then sieving and packaging.

---

---

**Regulatory status**

**AHA1053** complies with TSCA (USA), DSL/NDSL (Canada) and IECSC (China).

---

---

**Storage**

Store in temperature between 2 and 30°C or cool dry place to avoid caking. Keep package closed after using. Keep away from fire.

---

---

**Package**

Packaging with PE lined craft paper bag. Net weight 10Kg per bag.

---

Version III-11-2023

*Notice:*

*The key technical data or specifications for the above product described in this paper may be changed from time to time due to improvement constantly. AHA reserves the right to change the specifications of its products without prior notice.*

Although the information in this paper is based on our own investigation and is believed reliable, AHA can not assume any responsibility for performance or results obtained through the use of our products herein described. Neither we nor our agents shall be liable for any injury, loss or damages directly or indirectly caused by our products. The user is held to check the quality, safety and all other properties of our product before using. Nothing herein is to be taken as permission or recommendation to practice any patented invention without a license.