Product Information

Interpon D Brilliance Application Guidelines

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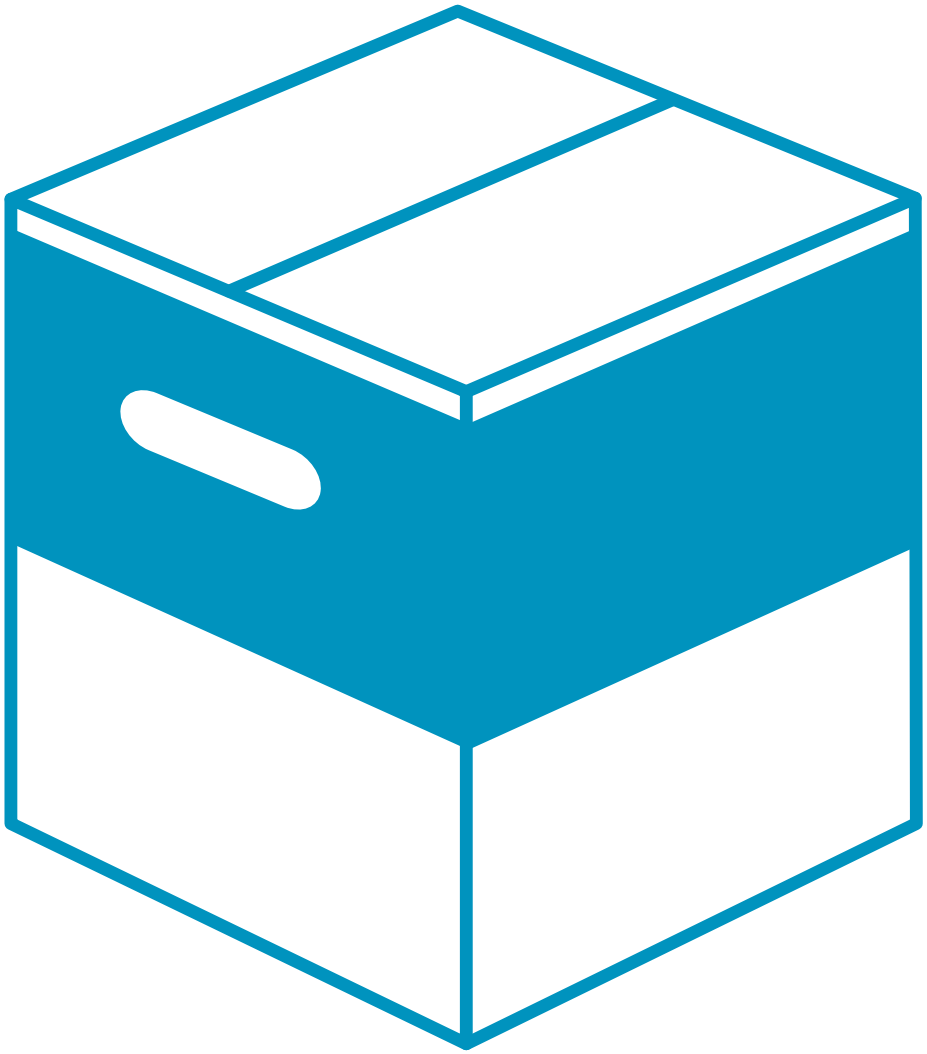

Interpon®

Application Guidelines

Interpon D Brilliance

1. Introduction

The recommendations hereafter reported are to be intended only for guidance for to implement the optimum line set-up for applying **Interpon D Brilliance** powders, including Interpon D1036 Matt, Interpon D2525 Matt, Interpon D1010 Matt and Interpon D2015 Matt Brilliance colors.

The optimum line set-up must be found out in pre-trial phase and then applied in full scale production.
Considering that transfer efficiency of metallic powder it is strongly affected by climate conditions of environment and powder storage (temperature and relative humidity) it is recommended to evaluate the starting line set-up conditions through a small pre-trial test every time a new full scale production or a new powder batch is initiated.
Interpon D Brilliance are metallic bonded powders according to Akzo Nobel bonding technology, if customer already use such quality powders it is recommendable to maintain the same line set-up conditions as starting point.

2. Recommendations for line set-up

Type of Gun	Electrostatic Corona
Diffuser type	It is recommended flat jet spray nozzle for automated line application. It is recommended deflector type for manual application.
Film thickness	It is recommended the range 70 - 90µm. Film thickness < 70 µm should be avoided for to maintain a consistent colour through the work-piece surface. Film thickness > 110µm should be avoided for to avoid undesired degassing phenomena, assembly fitting phenomena and decreasing in film flexibility.
Cure schedule	See relevant Series Technical Datasheet.

Substrate type & surface preparation	Aluminium components: they should receive a full multi-stage chromate conversion coating or a suitable chrome-free pre-treatment to clean and condition the substrate. Detailed advice should be sought from the pre-treatment supplier. Galvanized steel components: they require surface preparation by either multi-stage pre-treatment using either zinc phosphate or chromate conversion or controlled sweep blasting. Depending on the type of galvanising, degassing or use of anti-bubbling additives may be required - follow the procedural advice of the pre-treatment supplier. Cast and mild steel components: they require surface preparation by multi-stage pre-treatment using zinc phosphate (strongly recommended). For outdoor it is strongly recommended to use an anti-corrosive primer.
Distance Gun – substrate	For automated line application it must be set up considering the optimum synchronism between line speed, reciprocator stroke speed and film thickness build to be achieved in relation to component geometry. For manual application, it is recommended to start with a distance of 200-250 mm to be possibly adjusted to achieve the desired film thickness build and even lay down. Best results seen with minimum of 250mm on automated lines.
Gun Voltage	Recommended gun voltage 50-70kV Gun current to be in range 5-50µA to adjusted as required with good results seen between 20-25µA Super Corona or corona ring not recommended However, in case of automated line application it must be set up considering the optimum synchronism between line speed, reciprocator stroke speed and film thickness build to be achieved in relation to component geometry. Settings will vary from customer to customer so these recommendations should be used for start-up guidance only
Powder Air	For manual application we recommend to start with 3Nm³/h total air setting and to increase as required. For automatic line application the air settings must be set up considering the film build and component geometry in relation to synchronism (line speed vs.

	reciprocator) and gun voltage/current applied. It is advisable to choose a setting with conveying air pressure as low as possible in order to reduce the likelihood of impact fusion in Venturi pumps. It is recommended to have the supporting air on high level in order to keep the powder cloud as de-agglomerated as possible. If the automatic line is provided with tip-gun cleansing air, it is recommendable to be minimum 0.5 bar in order to avoid the formation of any agglomeration of gun-tip.
Hopper	The use of direct box feed equipment may not reproduce fully the finish of colour standard. To ensure powder homogeneity, empty the boxes totally into the tray or feed hopper. Keep always over 50% powder volume of hopper.
Reclaim	Unused powder can be recovered and recycled by using the most common equipment subject to normal controls on ratios of recycled-to-virgin powder. In any circumstances the recycled-to-virgin ratio should not exceed 1/5 (no more than 20% of recycled powder in the hopper).

3. Recommendations to avoid application issues

To prevent application issues like spitting, hose clogging, metal pigments agglomeration and impact fusion it is recommended to put in place the following best practice actions:

Blow the hoses every 4 hours (twice per shift).
Clean inside of each gun every 8 hours (every shift).
At application start up blow clean the deflectors (gun tip) after 5-10min to remove the possible metal accumulation; repeat the operation as long as the deflectors do not stabilize clean. If the gun is provided with supplementary air to keep clean the gun diffuser: keep that air at maximum.
In choosing the line setting up, prefer always the ones with conveying air pressures as low as possible in order to avoid impact fusion issue into the Venturi pumps.

4. Sealant choice & assessment

For the choice of the right sealant it is strongly recommended to carry out adhesion tests in phase of pre-trail to choose the most suitable one before to go on full scale production.
The sealants should be applied in fully accordance with the written recommendations and procedures of manufacturers.
It is recommended for evaluation process to refer to following specification as well: ASTM C1184, C920-05, C794-93.