



Alesta®

HFH641S4

Dark Gray 52Z

Revised: 30 December 2021

Application: Extended Exterior Durable Coating

DESCRIPTION

Alesta® Product No. HFH-641-S4 is a thermosetting TGIC-free polyester designed with extended exterior durability. When compared under similar outdoor conditions to standard grade powder coatings of similar color, gloss, and specific gravity, it will retain original appearance for a longer period. * Note: PCI, Orange peel, and all listed coating properties are for a two-layer system using a Caterpillar approved primer. Topcoat and primer were applied following TDS instructions.

TYPICAL POWDER PROPERTIES

Color:	Gray	Theoretical Coverage:	135 ft ² /lb/mil
Specific Gravity:	1.42 ± .05	Typical Gel Time:	138 sec ± 10% @ 204°C (400°F)
Cyclic Corrosion Resistance:		Recommended Shelf Life	24 Months
SAE J2334, 40 cycles	*Pass 1E1952	@ 25°C (77°F)	
*Over an approved primer		@ 50% RH	
Mass Loss during Cure:			
ASTM D2351	< 1%		

* Transportation: The material is stable during transportation at temperatures below 25°C (77°F) and 50% RH.

* After opening, storage of powder should be in a closed container. Recertification of material is available after 18 months from manufacturing date.

TYPICAL PROPERTIES OF APPLIED FILM†

<u>TEST / REQUIREMENT</u>	<u>METHOD</u>	<u>RESULT</u>
Pencil Hardness:	ASTM D3363	4H
Direct Impact, Gardner:	ASTM D2794	40 in.lbs.
Elongation Flexible Mandrel:	ASTM 522 Method A	32% at MAX Elongation, no Fracture
Adhesion, Cross Hatch:	ASTM D3359, Method B	5B, Topcoat to Primer (Intercoat) 5B, Primer/Topcoat System to Substrate
Gloss @ 60°:	ASTM D523	35 - 45
PCI Powder Smoothness:	ACS TM 10.219	7
Orange Peel:	ACT Visual Standards	6
Salt Spray:	ASTM B117	1,000 hrs
Steel Enclosures, Elect. Eq:	UL DTOV2 Organic Coating	Recognized
Overbake Resistance, Time:	ASTM D2454	100%



Substrate: Reference materials per 1E4093.

GENERAL APPLICATION PARAMETERS

Application: Electrostatic Spray, Cold
Substrate Recommendation: Cold Rolled Steel

Two-Layer System for Superior Performance Topcoat:

- Apply over a Caterpillar approved primer at recommended thickness.
- Fully or partially cure primer following recommended schedules.
- Apply topcoat powder at recommended thickness.
- Fully cure two-layer system following recommended schedules.

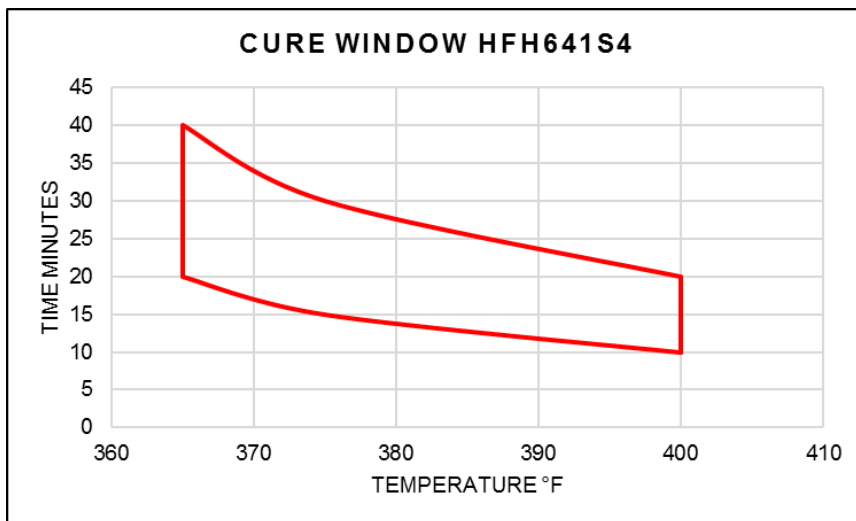
****CAUTION**** Total oven residency time will vary depending on substrate, substrate thickness, and oven heat-up rate.

CURE SCHEDULE GUIDELINES

The cure schedule using a two-layer system with Caterpillar approved primers show the minimum time at temperature required to achieve the typical performance properties of the coating. No sanding or scuffing required for topcoating.

Substrate Type	Application System	Recommended Total Film Thickness (mils)	Cure type	Cure Schedule (Time at Metal Temperature)	
				Time (min)	Temperature (°F)
Cold Rolled Steel	Primer + Topcoat (two-layer)	3.0 – 4.3	Full	10 min	400°F
				15 min	375°F
				20 min	365°F

****CAUTION**** Maximum DFT (Dry Film Thickness) without lowering coating performance is 4.3 mils (0.109 mm) for two-layer application. Minimum topcoat film thickness required to meet orange peel rating of 6 is 2.0 mils (0.050 mm)



Always consult product Material Safety Data (MSDS) prior to handling.

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