

# PAINT APPLICATION

## general specifications

1. Epoxy Polyester Hybrid powder coat paint shall be applied in an electrostatic-charged powder coat spray-painting system to provide a durable, hard, inert finish.
2. Powder coating uses no solvents, subsequently no off gassing or any chemicals banned by the Environmental Protection Agency or any state level Department of Natural Resources. There are no heavy metals such as chrome, lead or mercury.
3. All steel to be painted must be processed and prepared for painting using a continuous line washer, which cleans and phosphatizes.
4. Phosphate-treated steel parts shall immediately be dried in a temperature-controlled dry off oven.
5. Epoxy Polyester Hybrid powder coat paint shall be applied using powder handling, air-assisted electrostatic powder spray guns to achieve a uniform dry film coating, with adequate surface coverage.
6. Epoxy Polyester Hybrid powder coat paint shall be used to ensure exact, final color matching can be achieved during batch processing. This shall ensure color uniformity from batch to batch in all colors.
7. System shall be capable of both short lead times and small quantity runs to achieve maximum flexibility for customer orders to add-on, fill-in or replace finished product with high degree of assurance that exact color match will be achieved. Custom colors shall be possible, with all coverage and performance characteristics the same as for standard colors.
8. System shall ensure efficient recovery and reuse of over-spray, and comply fully with all Federal and State regulations.
9. Epoxy Polyester Hybrid powder coat paint shall be oven cured to provide a furniture quality finish.
10. Epoxy Polyester Hybrid powder coat paint shall be used to provide superior performance qualities with regard to abrasion, impact, corrosion, stain and chemical resistance per ASTM test methods and standards.
11. Epoxy Polyester Hybrid powder coat paint shall be used to ensure painted, finished surfaces are inert. There shall be no interactions between paint and stored items that could cause damage to stored items.
12. Epoxy Polyester Hybrid powder coat paint shall be used to ensure that product in use can be refinished, or touched-up, with paint that will be a match to both the color and composition of the original paint finish.

# PAINT FILM PERFORMANCE

<b>Color</b>	L*a*b readings of less than 0.3 under cool white light to Borroughs standard.
<b>Gloss</b>	ASTM D523 60 +/- 10 at 60° at 1.5 mil.
<b>Hardness</b>	ASTM D3363 No film cut while gouging with a mechanical pencil using a 2H lead.
<b>Adhesion</b>	ASTM D3359 No loss of adhesion Class 5B.
<b>Flexibility</b>	ASTM D522 No cracking or peeling at 1/8" Conical Mandrel.
<b>Chemical and Stain Resistance</b>	ASTM D1308 Five drops of each reagent under a watch glass for 4 hours. There shall be no more than a trace of a stain. Change in gloss shall not exceed standard. Chemicals used are Alcohol (isopropyl), Cutex Nail Polish Remover, Ammonia, Coca-Cola, Mustard, Catsup, Tea, Coffee, Clorox, 5% Acetone.
<b>Impact Resistance</b>	ASTM D2794 No peeling or loss of adhesion using tape peel. Test with 60in./lb. direct and reverse.
<b>Salt Spray</b>	ASTM B117 For 180 hours and per (ASTM D-1654), a creep acceptance result of 5.
<b>Condensing Humidity</b>	ASTM D2247 No blistering after 200 hours.
<b>Abrasion Resistance</b>	ASTM D4060 0.3g - 0.4g material loss after 100 cycles of Tabor Abrader (CS5 Wheel).
<b>Oven Bake Resistance</b>	ASTM D2454 Within specification of color, gloss, hardness and adhesion after double bake of one panel.
<b>UV Resistance</b>	Minimal change in color or gloss after 60 hours using QUV-A bulbs.
<b>Adhesive Bonding</b>	Shall accept 3M VHB PSA with no loss of adhesion.
<b>Scratch Resistance</b>	500g on Hoffman Scratch Tester. Not visible at arms length in vertical position.



3002 N. BURDICK STREET ■ KALAMAZOO, MI 49004-3483  
800-748-0227 ■ FAX 269-342-4161 ■ www.borroughs.com

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September 2009 #672-042-06