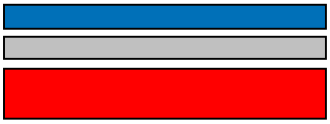
PRODUCT DATA SHEET

EXTENDED-LIFE, TEDLAR®-CLAD CHROME LAMINATES

Chrome-based Formable Brightwork



GENERAL DESCRIPTION

DORRIE INTERNATIONAL has developed an extended-life chrome laminate to meet the most demanding automotive specifications.

Our chrome laminate consists of a top layer of Tedlar® (PVF) and a polyester film/chrome layer, bonded to a variety of substrates. Typical constructions (like that seen in the diagram above) range in thickness from 0.007" to 0.250" (.1778mm to 6.35mm), utilizing various polyester film thicknesses and backings (e.g. TPO, PVC, ABS, PET).

This product provides a means of producing weather-resistant exterior automotive parts by several processes. **DORRIE'S** "(Cr) Chrome" (vs. the traditional Aluminum "Chrome"-based brightwork) is naturally resistant to corrosion and alleviates the need for encapsulation and edge protection.

APPLICATIONS

Typical automotive uses of this chrome laminate include exterior automotive trim parts that would be susceptible to corrosion (e.g. wheel well trim, body side molding and fascia inserts). The material may be processed using:

(a) A two (2)-step process consisting of the pre-forming of a part followed by injection molding behind that pre-form.
(b) A one (1)-step process in which the flat sheet is draped between the mold halves and injection molded from behind.
(c) Heavy gauge (0.060" - 0.250", 1.524mm - 6.35mm) laminate needing only thermoforming.
(d) A traditional in-line extrusion process.

PROCESSING PARAMETERS

DORRIE'S application group will assist in determining these parameters on a case-by-case basis.

STORAGE CONDITIONS

DORRIE INTERNATIONAL recommends that storage conditions be maintained at 72° F (22° C) with 50% relative humidity. The processing performance of these types of laminates will not be adversely affected when stored under these conditions for up to six (6) months. However, as the ambient conditions vary, or as the length of storage time increases above this limit, the material may not process as well.

This limitation must not be confused with the durability or reliability of the product in its finished state. Once the application of the laminate has taken place, it will withstand the most stringent testing procedures required of this type of product.

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Rev. Date: 04/01

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This product has been tested under a number of OEM specifications. The following table is a general listing showing Dorrie Formable Chrome Brightwork's outstanding performance.

PROPERTIES	SPECIFICATION REFERENCE	MINIMUM REQUIREMENT	MEASURED PERFORMANCE
Heat/Humidity Freeze Cycle	Ford ESB-M15P8-A	No deterioration, discoloration, wrinkling or separation	Passes Test
Water Immersion (240 hrs.)	Ford ESB-M15P8-A	No deterioration, discoloration, wrinkling or separation	Passes Test
Gardner Impact (Frozen & Ambient)	Ford ESB-M15P8-A	No evidence of cracking, loss of adhesion or other failure	Passes Test
Inst. Low. Vel. Impact (Frozen & Ambient)	Ford WSB-M99D61-A2/ ASTM D-3763	Must demonstrate ductility vs. a standard	Ductile vs. Std.
Water-Salt Spray-Humidity-C.A.S.S.-Thermal Shock Cycle	Ford ESB-M15P30-A	No evidence of corrosion, delamination, or surface degradation	Passes Test
Adhesion (Method B)	Ford ESB-M5P10-A	No flaking or chipping of the metallized coating	Passes Test
Chip Resistance (Gravelometer) Frozen/Ambient	Ford ESB-M5P10-A	Min. rating of 7B per SAE J400	Passes Test
Thermal Shock	Ford ESB-M2P105-D5	No blistering or loss of adhesion	Passes Test
Resistance to Acid Spotting	Ford ESB-M2P105-D5	Max. discoloration rating of 4 (AATCC)	No discoloration
Resistance to Cold Impact	Ford WSB-M99D61-A2	No shattering or breaking (i.e. fissure through full thickness)	Passes Test
Shock Test	Ford WSB-M99D61-A2	No loss of adhesion	No loss of adhesion
Weathering (Xenonarc Weatherometer)	SAE J1960	Delta E values < 3.4	Passes Test
Scuff Resistance (Taber Abrader)	Ford ESB-M2P105-D5	No surface cracks transverse to the direction of motion	Passes Test
Oil & Gasoline Resistance	Ford ESB-M2P105-D5	No blistering, loss of adhesion, color change or dulling	Passes Test
Road Asphalt Stain Resistance	Ford WSK-M4D698-A1/A7	Max. Delta E value of 1.5	Passes Test
12/24 Mo. Florida	Ford FLTM BI 160-01 SAE J1545	No visible deterioration	Passes Test
Cold Flexibility	Ford ESB-M2P105-D1/D9	No cracking	No cracking

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