

3.6 Flash. A flash time of one (1) minute to three (3) minutes between coats of enamel application is typical. Six (6) minutes of flash is typical prior to oven entrance. Refer to the approving paint engineer for additional information in regards to exceptions for the typical processing flash time ranges.

3.7 Bake. Products that are approved to this standard have a target bake of 82 °C (180 °F) and typical bake range of 82 °C to 135 °C (180 °F to 275 °F). Time at substrate temperature typically varies from 20 minutes to 90 minutes. Refer to the approving paint engineer for additional information in regards to exceptions for the typical processing bake temperature and time ranges.

Table 1: In-Line Reprocess Matrix

Original Equipment Manufacturer (OEM) Film Build and Bake	Aging Before Recoat	Adhesion Promoter Before Recoat	Recoat Film Build and Bake	Initial Adhesion GMW14829	Humidity Plus Adhesion GMW14729 GMW14829	Environmental Cycle A GMW14124 GMW14729 GMW14829
L/H	72 h	No	T/T			
L/H	72 h	Yes	T/T			
H/L	72 h	No	T/T			
H/L	72 h	Yes	T/T			
L/H	2 weeks	No	T/T			
L/H	2 weeks	Yes	T/T			
H/L	2 weeks	No	T/T			
H/L	2 weeks	Yes	T/T			

Key: H = High, L = Low, T = Target.

3.8 Chemical Requirements. All two-component enamel reducers must be urethane grade or equivalent.

3.9 Special Handling. Component B (typically isocyanate), may require a dry nitrogen blanket to prevent the entry of moist air. Isocyanate materials in Component B will react with water, alcohols, and certain other materials, therefore, precautions must be taken to ensure that none of these are present or introduced into storage containers or circulating systems containing materials noted in 3.8.

3.10 Safety. Special precautions must be taken to limit pulmonary inhalation of fumes and direct skin contact with unreacted isocyanate materials. Follow local plant safety procedures, agreements, and monitoring procedures.

3.11 Additional Requirements. Product approval is required under established guidelines outlined in ISO/TS 16949. At product approval, the supplier is expected to have reviewed to GM's satisfaction specific documentation outlined in Advanced Product Quality Planning (APQP). Examples of this documentation are to include Design Failure Mode and Effects Analysis (DFMEA), Process Failure Mode and Effects Analysis (PFMEA), Key Product Characteristics (KPC), Key Control Characteristics (KCC) and Manufacturing Control Plans.

3.12 All materials supplied to this standard must comply with GMW3059, **Restricted and Reportable Substances**, including the requirement to submit a full material composition disclosure to GM via the International Material Data System (IMDS) or via a completed GMW3059 report form.

4 Manufacturing Process

All shipments of material or parts under contract or purchase order manufactured to this specification shall be equivalent in every respect to the initial samples approved by Engineering. There shall be no changes in either formulation or manufacturing processes permitted without prior notification and approval by Engineering. Lack