FORMICA® LAMINATE BY FORMICA GROUP / POSTFORMING TECHNICAL BRIEF

CONDITIONS AFFECTING POSTFORMING

Successful postforming is easily accomplished by using various techniques which recognize and moderate the common variables associated with postforming. These techniques incorporate preconditioning, temperature control, elimination of drafts, and proper equipment adjustment and maintenance.

PRECONDITIONING

Postforming grade laminate is hygroscopic; that is, it is capable of losing or absorbing moisture from the atmosphere. Therefore, if it is exposed to dry air conditions, a loss of moisture can result that adversely affects its postforming properties. To assure proper postforming performance, Formica® Brand postforming grade laminate should be preconditioned prior to use for at least 48 hours at 70°F (21°C) and 50% relative humidity. Small shop areas can be economically humidified with portable humidifier units. Larger areas may require specific recommendations from an HVAC equipment supplier.

Remember, when seasonal changes approach, preconditioning practices should be observed to maintain consistent postforming conditions inside the shop, regardless of the atmospheric conditions outside. This is especially important during winter months, when dry air conditions often exist.

TEMPERATURE CONTROL

The optimum postforming temperature for Formica Brand Laminate is at or near 325°F (163°C). Lower temperatures may cause cracking while higher temperatures may cause gloss changes, blistering and/or cracking. If either occurs, alter the surface temperature accordingly. On most equipment this can be accomplished by adjusting the power input to the heater, the heater height or the line speed.

To determine the surface temperature of laminated plastic, there are two primary techniques which can facilitate equipment setup.

One relatively simple technique involves the use of temperature indicators such as Tempilaq® Temperature Indicating Liquid or Tempilstik® Temperature Indicating Crayons to facilitate equipment setup. Another effective method of monitoring and measuring the laminate surface temperature is to use a non-contact infrared thermometer.

ELIMINATE DRAFTS

Avoid open windows or doors near the postforming operation. Sudden drafts over the heated laminate surface can drop its temperature below optimum conditions and cause cracking or crazing. This is especially important during cold weather, when cold blasts from open doors, etc., can happen unexpectedly. The use of temporary or permanent partitions to eliminate drafts is often required.

EQUIPMENT INSPECTION

Commercial or custom-built postforming equipment will perform efficiently and properly only if it is in good working condition. All equipment should, therefore, be inspected periodically. Automatic timers may malfunction. Heating elements may develop hot spots or fail to heat up. Guides or stops may loosen. Rollers may become misaligned or worn. Planned periodic inspection of all critical components will help avoid costly material damage and loss of valuable production time.

COMMON POSTFORMING PROBLEMS

SYMPTOM: CRACKING, CRAZING

Problem	Cause	Correction
Heat source	Insufficient heat	Increase heat or rate of heat-up
	Improper heater position	Adjust heater to focus on bend area
Cores	Irregular radius	Sand core
	Poor machining	Check cutter alignment
	Cold cores	Store at 65°F (18°C) minimum
	Contaminated or dusty cores	Clean prior to forming
	Radius too tight	Increase radius
Equipment	Poor alignment	Align equipment
	Dirty equipment	Clean equipment
Laminate	Wrong grade	Use proper grade
	Dry conditions	Humidify storage area

SYMPTOM: BLISTERS

Problem	Cause	Correction
Heat source	Too much heat	Reduce heat

SYMPTOM: GLUELINE DELAMINATION

Problem	Cause	Correction
Heat source	Insufficient heat to soften laminate	Increase heat
	Too much heat	Reduce heat
Core	Radius too tight	Increase radius
Equipment	Poor alignment	Align equipment
Adhesive	Insufficient adhesive	Increase spread rate
	Improper adhesive	Consult manufacturer
Drying Oven	Insufficient drying time	Increase drying time or oven temperature

SYMPTOM: GLOSS CHANGE

Problem	Cause	Correction
Heat source	Too much heat	Reduce heat

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TECHNICAL SERVICES

Technical assistance may be obtained through your local Formica® Brand Products Distributor or from Formica Corporation trained representatives in sales offices throughout the country. To assist these representatives, Formica Corporation maintains a sales technical services staff in Cincinnati, Ohio. For technical assistance, contact your distributor or sales representative; write the company directly at Formica Corporation Technical Services Department, 10155 Reading Road, Cincinnati, OH 45421; call (513) 786-3048 or 1-800-FORMICA™; or fax (513) 786-3195. In Canada, call 1-800-363-1405. In Mexico, call (525) 530-3135.

IMPORTANT NOTICE

The information and statements herein are believed to be reliable but are not to be construed as a warranty or representation for which Formica Corporation assumes legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. **NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.**

For warranty information, please visit www.formica.com or call 1-800-FORMICA™.

GreenGuard Environmental Institute
Formica® high-pressure laminate (HPL) is GreenGuard Indoor Air Quality Certified under the GreenGuard Standard for Low-Emitting Products.

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