

PROLASER Processing Guide

Co-extruded & Laser Coated

1. General Processing Guidance

This guide defines the processing parameters for all Prolaser edgebands supplied by Hutchco, including co-extruded and laser-coated types. Prolaser edgebands can be processed on KAM and BAZ machines using laser, hot air, NIR, or Hyfuse technology.

Final edge quality depends on alignment between edge specification, activation energy, machine settings, and board condition.

Total edge thickness must include the 0.2 mm functional layer. Activation output must match this thickness.

Feed speed and pressure settings must support stable bonding.

Board type and moisture content affect adhesion. All settings must be confirmed by testing the actual board and edge combination before production.

2. Processing Guide

LASER	Laser Power Group ^(LG)		Joules / cm ²
White Tones	1		20-21
Mid Tones	2		19-20
Dark Tones	6-7		14-16
Black	9		12-13
Adjust by +/- 2 joules/cm ² if necessary.			

HOT AIR	Homag AirTec	Biesse Akron	Biesse Stream	SCM Air Fusion
Feed Rate ^(meter/min)	15-20	12-15	18	12
Contact Pressure ^(bar)	3	3	3	4-5
Nozzle Temperature ^(°C)	450	420	500	360
Element Temperature ^(°C)	650	620	730	450
Nozzle Pressure	6			

NIR (NEAR INFRARED)	White	Black
Feed Rate ^(meter/min)	15	25
Contact Pressure ^(bar)	2-5	2.5
Power NIR-Modul ^(KW)	6	5.1 - 5.8

HYFUSE
No specific guidance necessary

All information, technical data, processing settings, and recommendations are provided as general guidance only. No representation, guarantee, or warranty is given as to accuracy, suitability, performance, or results. Users must verify suitability under actual production conditions, including materials, equipment, environment, application method, and end use, and assume all associated risk and responsibility to the extent permitted by law.

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3. Laser Edge Activation Methods



Light beams trigger precise, seamless molecular fusion.



High-velocity heated air for concentrated convective activation.



Short-wave IR provides instantaneous, high-intensity radiant activation.



Oxy-hydrogen flame provides carbon-free thermal fusion.

4. Suitability

Prolaser edgings use either a co-extruded or post-coated functional bonding layer. This bonding layer is activated using laser, hot air, NIR, or Hyfuse technology. All activation methods work on the same principle.

Prolaser edgings run on standard edgebanding machines, including KAM and BAZ units fitted with laser, hot air, NIR, or Hyfuse systems. During processing, the bonding layer is activated, then capped, trimmed, scraped, and polished to produce a clean edge radius.

Consistent, permanent results rely on correct machine settings. These vary by edging material, activation method, board type, machine configuration, and ambient temperature.

Settings must always be confirmed through testing. Follow machine manufacturer and material supplier guidance at all times.

The 0.2 mm functional bonding layer is added to the nominal edge thickness. Example: 1.0 mm edge plus 0.2 mm bonding layer equals 1.2 mm total thickness.

5. Storage

Storage requirements depend on the specific Prolaser material.

The functional layer remains stable even after extended storage.

For optimal performance, store Prolaser edgebanding: In a dry, cool environment, 18–25 °C. Protected from dust, direct sunlight for a maximum storage period of 18 months.

6. Cleaning

Use only plastic-safe cleaning agents. Always test on a sample before full cleaning. Solvent and alcohol cleaners may be suitable for some Prolaser PVC products but are not recommended for ABS.

7. Hazards

The mixture is classified as not hazardous according to regulation (EC) No. 1272/2008 [CLP]: not hazardous.

Mechanical processing may cause dust. May cause eye irritation. May cause respiratory irritation. May cause skin irritation.

Damage can be caused through mechanical influence of the product. Keep away from ignition sources. Take precautionary measures against static discharge.

8. Heat Distortion Resistance

Heat distortion resistance is material-dependent. Prolaser PP, ABS, and PVC edgings have softening temperatures above 90°C. Actual performance depends on colour, thickness, and processing conditions.

9. Corner Performance & Return integrity

All external corners, post-formed radii, and short returns must be visually checked at the start of each run and after any machine adjustment.

A pass condition is clean trimming with no whitening, no cracking, no chipping, and no edge lift at the corner or return.

Corner quality is controlled by energy input, pressure stability, feed speed, tooling condition, and consistent pre-heating of both board and edge. Stable settings and sharp tooling are required for repeatable corner performance.

Prolaser edgebanding products are manufactured to industry standards. Minor colour variation between batches may occur due to raw material differences. All materials must be inspected prior to use. The manufacturer's warranty and liability for bond, colour, pattern, surface finish, and recommended matches are limited to the replacement value of the edgebanding supplied. All technical data is provided for guidance only and does not constitute a warranty. Users must carry out their own testing for intended applications. Application, processing, and manufacture of final products are outside the manufacturers control and remain the sole responsibility of the user. Dv-001.23022026

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10. Frequently Asked Questions



Problem	Problem diagnosis
Open joint on long edge	<ul style="list-style-type: none"> • Laser energy too low for colour group • Incorrect pressure zone setting • Incorrect trimming angle
Open joint in corner	<ul style="list-style-type: none"> • Edge and board feed not synchronised • Edge overhang too long or too short • Laser start or stop position incorrect
Too little adhesion / low peel strength	<ul style="list-style-type: none"> • Energy setting too low • Contact pressure too low • Feed speed too high • Board surface contamination
Surface whitening or burn marks	<ul style="list-style-type: none"> • Energy too high for material • Excessive pre-heating • Incorrect nozzle distance
Machine temperature fault	<ul style="list-style-type: none"> • Incorrect laser coverage setting • Insufficient edge pigmentation for laser absorption



Problem	Problem diagnosis
Open joint on long edge	<ul style="list-style-type: none"> • Temperature too low • Pressure too low • Incorrect trimming angle
Open joint in corner	<ul style="list-style-type: none"> • Start or end of hot air application incorrect • Edge and board feed not synchronised • Edge overhang incorrect
Too little adhesion / low peel strength	<ul style="list-style-type: none"> • Temperature too low • Pressure too low • Feed speed too high
Functional layer smudged	<ul style="list-style-type: none"> • Temperature too high • Nozzle pressure too high
Edge jams in guide	<ul style="list-style-type: none"> • Edge tension too high • Functional layer sticking during feed • Retaining device set too low