



OWNER'S MANUAL

v.22-02

ORIGINAL · PLUS · ELITE · ELITE PLUS · SIGNATURE



Signature model shown

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SEE ALSO

The following documents are available online at hmtmfg.com/install

- Electrical Schematics
- Safety Data Sheet
- Installation Videos

INSTALLATION VIDEOS AT HMTMFG.COM/INSTALL

Would you rather watch than read? Our free, four-part video demonstrates how to install your laminator and you can view it right now at hmtmfg.com/install. Videos are available in English and Spanish.



HMT MANUFACTURING: THE ADHESIVE AUTHORITY SINCE 1972

HMT Manufacturing, Inc. has been solving adhesive challenges since 1972. Our products are found in the world's largest retailers, mom-and-pop woodworking shops, and mid-sized manufacturing facilities worldwide. Simply put, HMT can help you adhere anything. We invented a hot melt adhesive film that is non-toxic, non-shrinking, and high performance. We also developed laminating equipment that helps companies decrease costs, improve quality, and increase efficiency. And, we build custom laminating equipment and solutions on demand.

HMT Manufacturing began in 1972 and incorporated in 1974. Emil and Burton Bucher started by coating polyester edge banding with hot melt adhesive. Over time, they gained valuable experience and increased their coating operation to include wood, PVC, paper to paper, vinyl to PVC, and vinyl to paper.

The Bucher's developed a hot melt adhesive film that was 100% solids, non-toxic, non-shrinking, and offered an almost indefinite shelf life. With new environmental laws curtailing the use of solvent-based adhesives due to toxic VOCs, the development of HMT's new adhesive came at a very opportune time.

HMT designed and engineered a laminator machine that, using the new hot melt film adhesive, could evenly bond a 4'x8' sheet of

particle board with high-pressure laminate in minutes. Their new woodworking machine produced a finished panel that could be fabricated immediately into countertops, cabinets, furniture, etc.

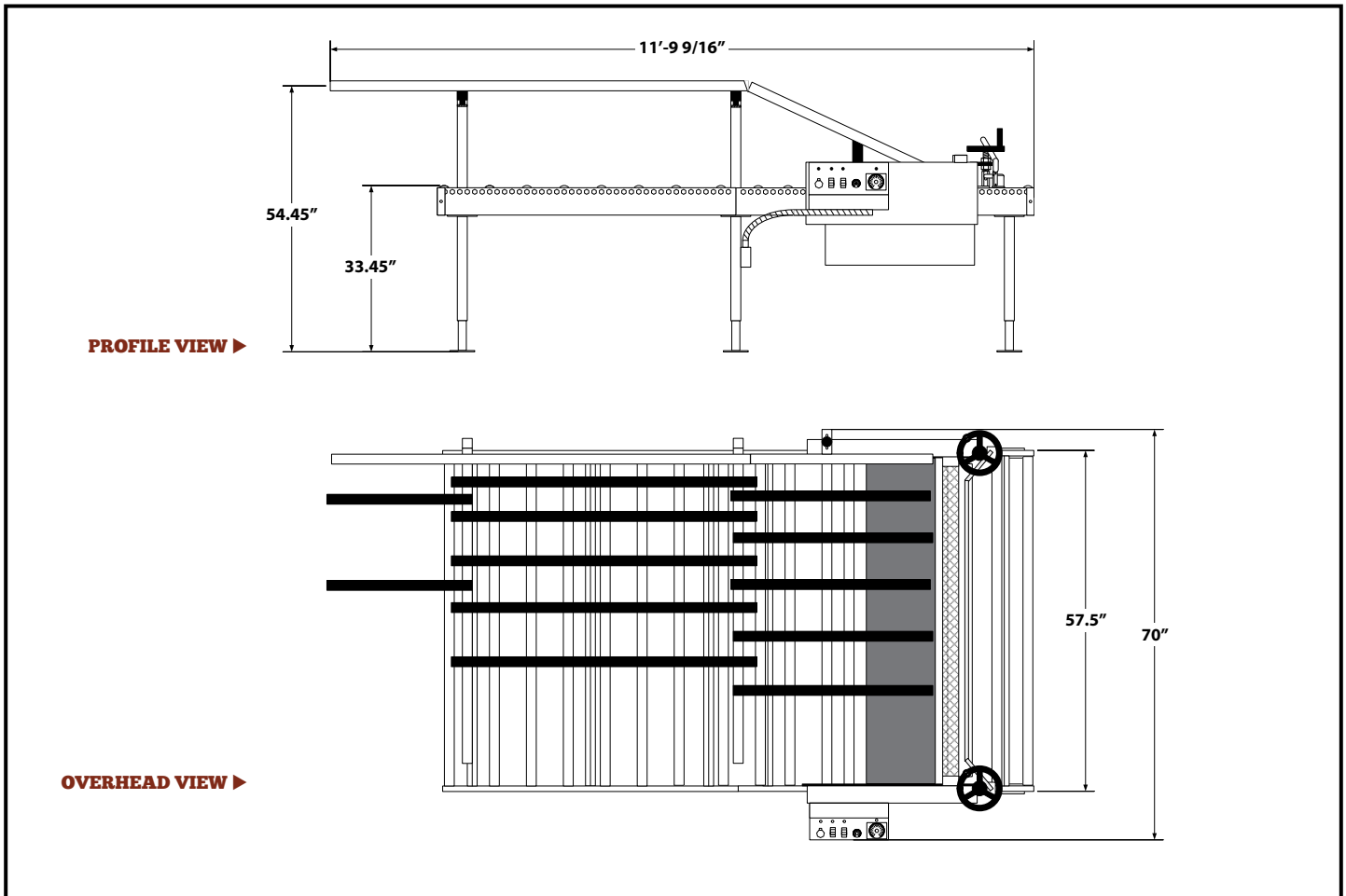
Currently, the laminator can mate many different substrates with numerous laminates. With the development of the roll stock feed attachment, the equipment is no longer limited to sheet stock. Roll goods, such as fabric, wood veneers, melamines, various foils, cork, and a host of other materials can be mated using an HMT Laminator.

As their expertise grew, HMT was able to design custom laminating equipment tailored to specific customer needs. If the current machine would not fit a customer's requirements, one would be modified or completely redesigned.

HMT has also developed a line of iron-on adhesives for use in the fabric and arts and crafts industries. Business expanded at a rapid rate, making HMT one of the largest producers of iron-on adhesives in the United States.

Today, HMT Manufacturing continues to improve its laminators, adhesives, and niche products while continuously researching and developing new solutions.

DIMENSION DRAWING: ADVANTAGE ORIGINAL

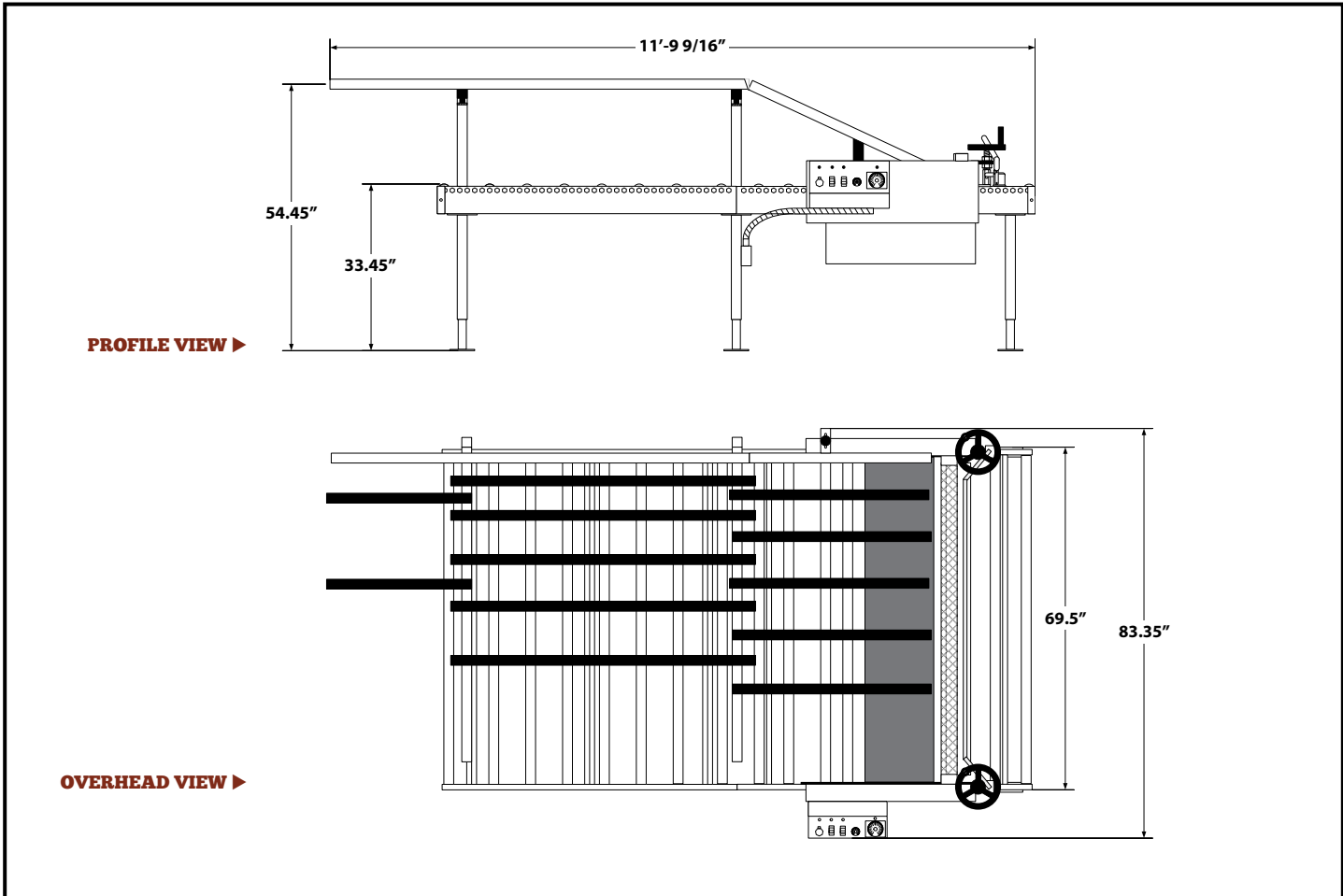


Advantage Original Laminator

for more information call 800-433-0730 or visit www.hmtmfg.com



DIMENSION DRAWING: ADVANTAGE PLUS

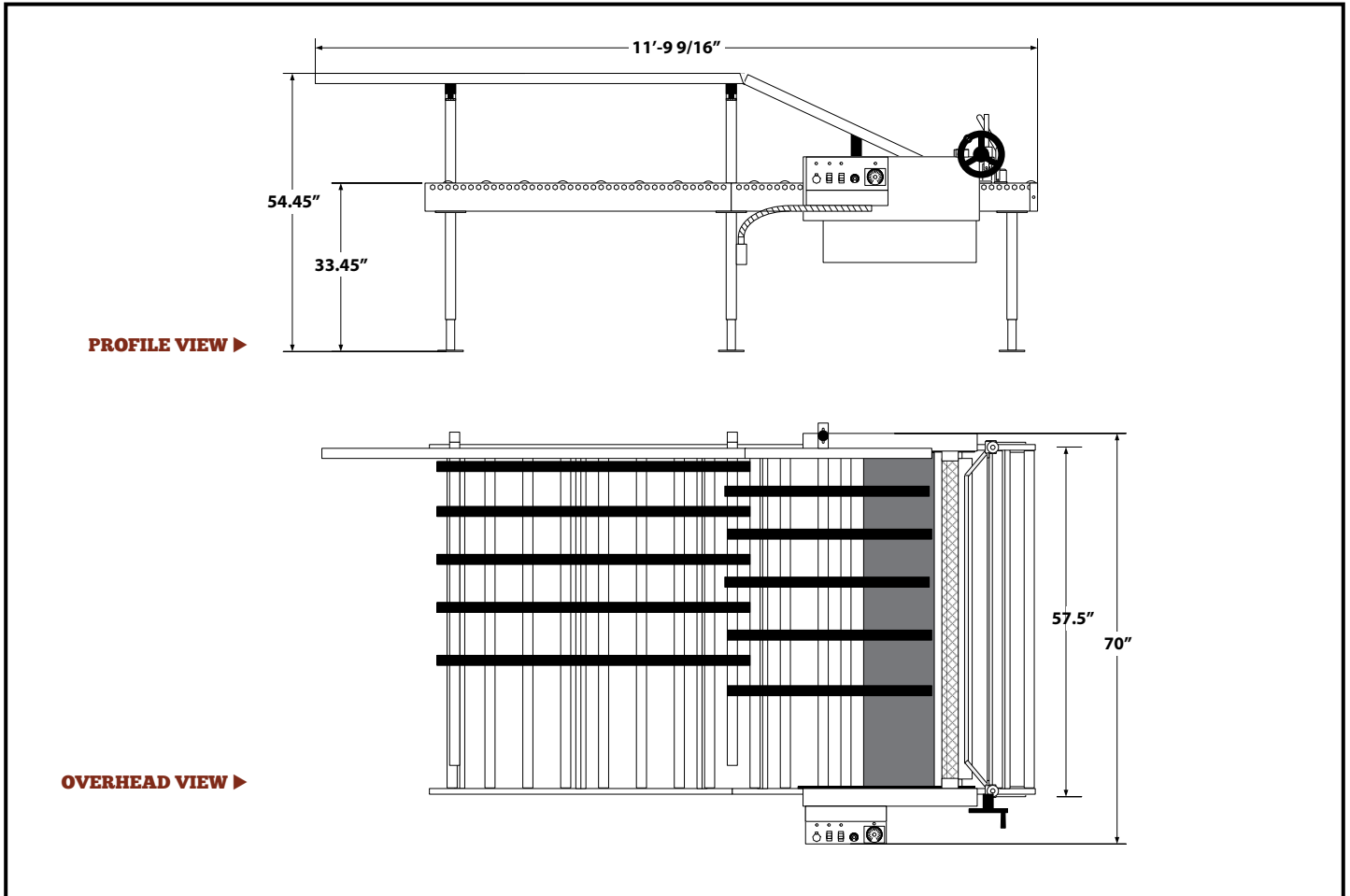


Advantage Plus Laminator

for more information call 800-433-0730 or visit www.hmtmfg.com



DIMENSION DRAWING: ADVANTAGE ELITE

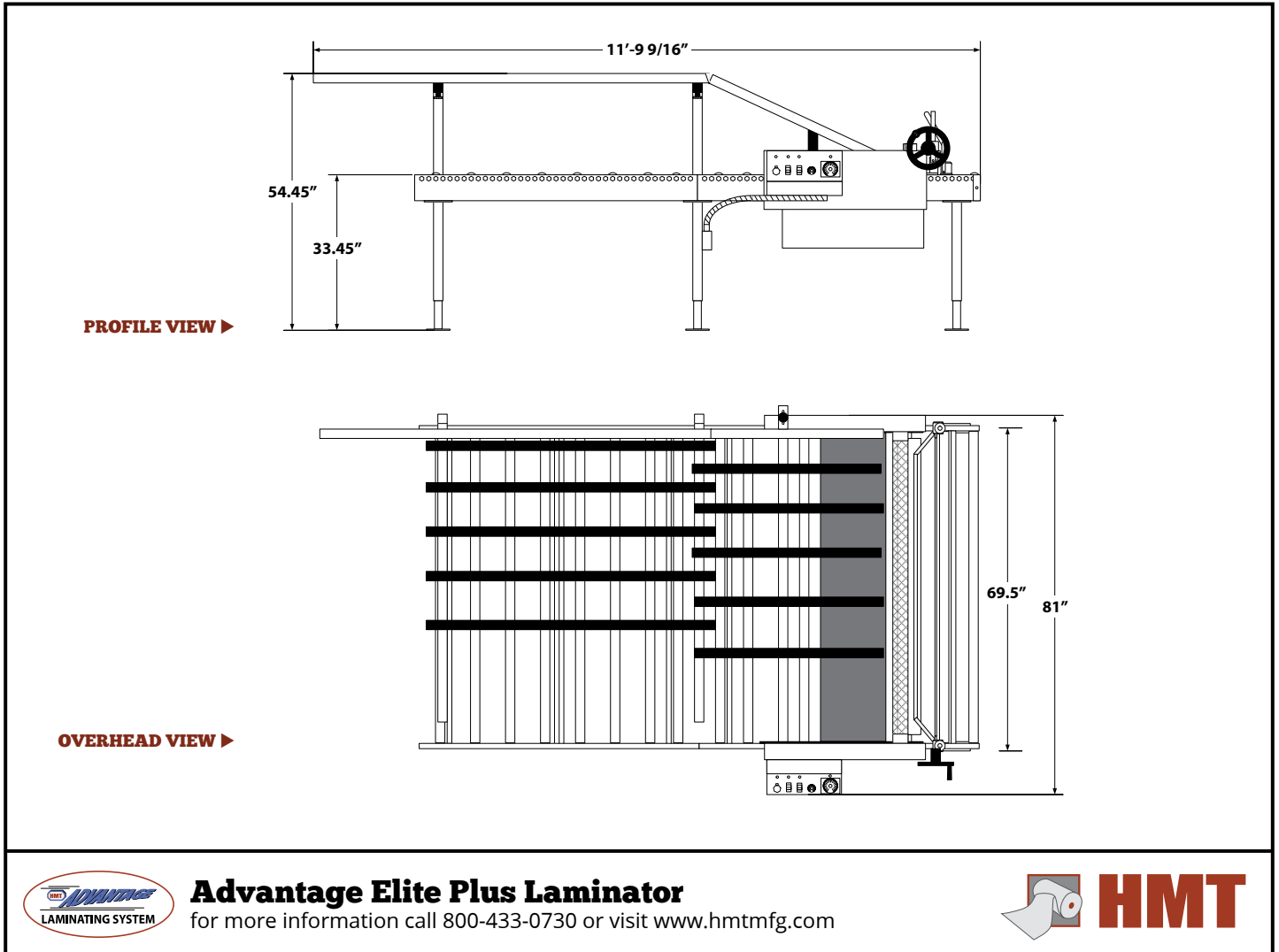


Advantage Elite Laminator

for more information call 800-433-0730 or visit www.hmtmfg.com



DIMENSION DRAWING: ADVANTAGE ELITE PLUS



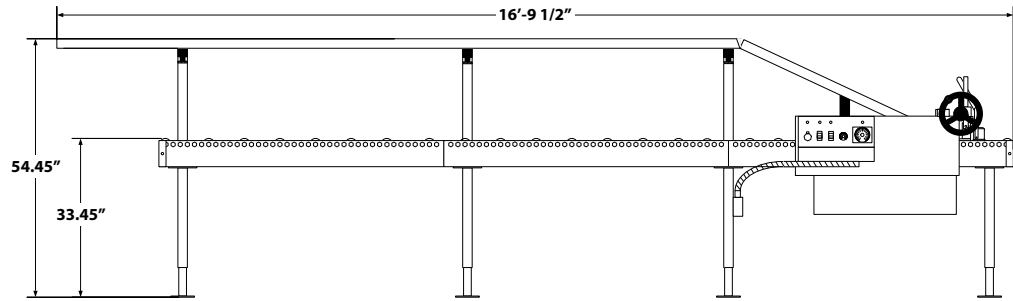
Advantage Elite Plus Laminator

for more information call 800-433-0730 or visit www.hmtmfg.com

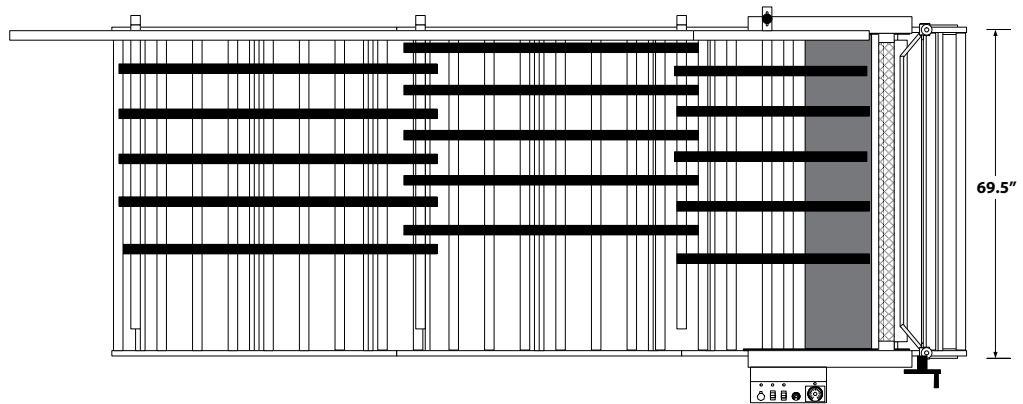


DIMENSION DRAWING: ADVANTAGE SIGNATURE

PROFILE VIEW ▶



OVERHEAD VIEW ▶



Advantage Signature Laminator

for more information call 800-433-0730 or visit www.hmtmfg.com



ASSEMBLY INSTRUCTIONS

1. Inspect crate carefully for freight damage. If damaged, call HMT before proceeding any further.
2. If there is no damage, open the crate. It is stapled together with corrugated and 1x3's and has 2x2's in the corners.
3. Only remove necessary parts from skid to allow removal of main drive/compression unit. Remaining conveyors are loaded onto the skid in the order that they should be installed.
4. Unbolt main drive/compression unit from skid. Move with forklift and extensions. Lift by angle cross braces. Be sure NOT to hit drive motor under conveyor. Put in place and level.
5. Level main drive/compression section before mounting any of the remaining conveyors. Use first and last conveyor rollers and bottom of conveyor channel to level side to side and front to back.
6. Bolt first conveyor to main support infeed end and bolt on leg.
7. Install one conveyor at a time and level before installing additional conveyors. Once all conveyors are installed and leveled, move all rollers with corresponding labels to the holes in the conveyors with the white dots.
8. Some rollers are set at an angle to keep your substrate tight against the guide wheels. **DO NOT STRAIGHTEN THESE ROLLERS.**
9. Install side guide wheels. Do not tighten. Do not loosen guide wheels that are pre-installed by manufacturer.
10. Mount long laminate guide (long aluminum rail with tape measure affixed to it). Do not tighten.
11. Mount short laminate guide to bracket on machine and long laminate guide. Do not tighten.
12. Place laminate supports and extensions on top of leg supports.
13. Put downer strips on leg support and heat bank hanger.
14. Hook power to machine. Make sure the high leg (if you have one) is NOT attached to RED wire; this line is also used to power 130V controls. If high leg is attached to this line it will damage controls and void warranty.

SET UP AND REGISTRATION

1. Place board on conveyor. Push on to drive rollers. Run through compression rollers until it just comes out from between. Put edge of board about 1" in on the guide side face of the compression rollers. Square end of board to compression rollers using straight edge across faces of rollers. Make sure board touches straight edge on both edges. Tighten compression rolls to board.
2. Set any side guide wheels against edge of board that were not installed by HMT. Drill conveyors and install roll pins into the small holes in the guide wheel bracket. This will ensure they do not move when loading materials onto the conveyor.
3. Set long laminate guide (aluminum angle) to same position. Use outside of leg as reference point. Set this so laminate runs either overhang to the board, flush, or inset. Tighten plastic knobs to hold.
4. Set sheet of laminate on machine. Hold against long laminate guide; bring down to compression rolls so it stops between roller and board. Set short laminate guide (stainless steel C-channel) flush with edge of laminate. Tighten plastic knob on brace and nut that connects short and long laminate guides. Set laminate stop about 1/4" ahead of laminate for proper end registration.
5. ORIGINAL & PLUS: Open compression rollers, remembering how many turns you take. ELITE, ELITE PLUS & SIGNATURE: Open compression rollers, make note of height readout. ALL MODELS: Push board back away from drive rollers and push GENTLY against side guide rollers. Reset compression rolls. Set laminate against guide and stop. Turn machine on. Run board through -dry- to check registration. Adjust as needed, but it may change slightly when you glue it up!
6. Set compression rolls – either enter board into rolls or use a smaller piece of the same thickness on either side. Close rolls until they touch base board firmly. ORIGINAL & PLUS: Make sure they are the same on each side! ELITE, ELITE PLUS & SIGNATURE: Measure substrate, lower rollers until readout matches board thickness and lower additional .020.
7. Note: One turn of hand wheel equals 1/8" (.125). For vertical grade laminate, you now have the proper compression. ORIGINAL & PLUS: For horizontal grade (.055) you may want to raise the rolls by 1/4 turn. ELITE, ELITE PLUS & SIGNATURE: Same applies for Signature model but simply raise compression rollers to proper setting.
8. Install glue payout hangers so slots are to the infeed end of the machine. Put set collars so they fit on either side of guide side glue bracket. Set 2-1/2" on guide side. The roll of glue will mount with two more collars so glue overhangs board equally on each edge.
9. After running a couple of panels and ensuring proper registration, lag machine to floor. This will keep registration intact.
10. Now that side registration is set, let's set end registration. From rear edge of laminate, move laminate stop 1/4" over laminate toward compression rolls. This allows 1/4" overhang of laminate to substrate for proper pick up at compression rolls.

OPERATING PROCEDURES

1. Turn on machine and warm up for 15-20 minutes:
 - Main** ON
 - Machine Run** ON
 - Heater Power** ON
 - Drive Speed** Normal may be 50-55%
 - *ORIGINAL & PLUS: about 7.5-9fpm*
 - *ELITE, ELITE PLUS & SIGNATURE: about 9.5-12fpm*
 - Temp Control** Normal
 - *ORIGINAL & PLUS: 90-95%*
 - *ELITE, ELITE PLUS & SIGNATURE: 85-95%*

These settings are based on 5/8" thick material and are to be used only as a starting point. Heat and speed settings will vary based on your materials, temperature of the materials, and temperature of your facility.
2. Load substrate on to infeed, placing edge GENTLY against side guide wheels. Move up so that lead edge is just behind the conveyor roller behind the adhesive roll.
3. Pull adhesive up and over substrate to trailing end of board. Leave adhesive overhanging about half the thickness of the board.
4. Cut adhesive from roll leaving about half the thickness of the board overhanging the lead edge.
5. Adjust the adhesive so that it overhangs the edges of the board an equal amount (usually about 1/4" inch). Remove the largest wrinkles, but glue does NOT have to lie perfectly flat – it will melt out under the heater. Do not leave any folds in the adhesive.
6. Advance panel onto drive rollers.
7. As panel advances, slide laminate from storage position down the angled chute. Ensure that it stays against the side fence the entire length.
8. Back laminate up against the pre-set stop and hold it in place.
9. Hold the laminate until the panel enters the compression rolls and pulls the laminate with it. Hold the laminate against the guide rail for the first few inches to ensure proper side registration.

OPERATING/MAINTENANCE TIPS

1. Set up extra roll stands at infeed and outfeed for longer panels. Extra conveyor sections are available from HMT Manufacturing. Set the outfeed conveyor so that it drops about 1/2" from beginning to end.
2. Glue should overhang each edge of the board by about 1/4" and be equal on each side. It should be cut so that about half the thickness of the board hangs over each end. This allows for shrinkage when the glue melts.
3. Glue should be clear as it comes out from under the heat bank. If it is still white, the glue is too cold.
4. Align the roll of glue with the board and laminate to minimize re-arranging the glue on the board.
5. Cut adhesive using a shop knife, pocket knife, or rotary knife. Keep the blade as flat to the board as possible to make as clean a cut as possible. A cut off knife is available as an option from HMT Manufacturing.
6. Laminate the backer side first – this keeps the face sheet cleaner.
7. After the glue is on the face of the board, start it onto the drive rolls first, then register the laminate. If you bring the laminate down first, it may start to drive through the compression rolls, and the end over the heat bank will get hotter than the back, causing warp and twisting.
8. Do not let the machine run with the heat bank on if you are not laminating – it wastes electricity and can shorten the life of the heater and bearings.
9. When you are finished laminating, turn the heat bank off, but let the machine keep running. The rollers and bearing need to cool down and will last longer and stay straight. Let the machine run for 10-15 minutes.
10. To set the compression rolls, use a piece the thickness of what you will laminate (substrate only). Make sure the roll is set the same at each end! A small piece can be used on each side (best way), or a full width piece works well.
11. Conveyor rollers are slightly angled. The angle guides your substrate toward the guide wheels. DO NOT straighten conveyor wheels!
12. Clean glue from compression rollers as it builds up. Use an aerosol "citrus base cleaner" (3M or IMS) to soften build up, then scrape off. Take care not to scratch rollers. Minimize buildup of glue on chrome roll by use of a non-petroleum base release spray.
13. Use a non-contact temperature reader to measure the temperature of the finished panels as it comes out of the machine. It should read 140-150 degrees Fahrenheit for optimum bond.

ADVANTAGE ADHESIVE PRICING

When it's time to order adhesive ask yourself five questions:

1 - How wide will your adhesive need to be?

Your substrate width plus 1/2".

2 - How many rolls will you need?

All rolls are 500' in length, which outputs approximately (62) 8' faces.

3 - What type of adhesive do I need to order?

Simply look at the tag from a previous roll (large white tag on outer box, or small white tag inside center tube).

4 - What does adhesive cost?

Square Footage	ADV500	ADVFR	ADVBK	GS	PEB
120,001+ sf	0.1473	0.2832	0.1864	0.1831	0.1842
48,001 - 120,000 sf	0.1622	0.2982	0.2015	0.1981	0.2028
24,001-48,000 sf	0.1649	0.3075	0.2041	0.2009	0.2065
≤ 24,000 sf	0.1686	0.3171	0.2083	0.2044	0.2117

- Prices effective February 10, 2024 and subject to change
- US dollars
- Rolls are available in widths ranging 4" to 62"
- All rolls are 500 feet in length
- Adhesive should be ordered 1/2" wider than substrate to ensure proper coverage
- To determine square footage per roll: $W'' \times L'' / 12''$
Example: $48.5'' \times 500'' / 12'' = 2,062.5$ sf

5 - Who do I contact to place the order?

There are multiple ways to place an order:

CALL:	847-473-2310 or toll-free 800-433-0730
FAX AN ORDER:	847-473-2349
EMAIL:	sales@hmtmfg.com

PARTS LIST

	ORIGINAL	PLUS	ELITE	ELITE PLUS	SIGNATURE
Motor	L3001	L3001	L3001	L3001	L3001
Main Switch	L3009	L3009	L3009	L3009	L3009
Drive Switch	L3010	L3010	L3010	L3010	L3010
Heater Switch	L3010	L3010	L3010	L3010	L3010
Drive Card	L0003.1	L0003.1	L0003.1	L0003.1	L0003.1
Contactora	L3517.1	L3517.1	L3517.1	L3517.1	L3517.1
Heater Timer	L0005	L0005	L0005	L0005	L0005
Heater 208v	L3206	L3506	L3206	L3506	L3606
Heater 230V	L3207	L3507	L3207	L3507	L3607
Drive Roller (orange)	L3004-O	L3504-O	L3004-O	L3504-O	L3504-O
Drive Roller (metal)	L3004	L3504	L3004	L3504	L3504
Conveyor Roller	L3054	L3554	L3054	L3554	L3554
Compression Roller (rubber)	L3101	L3501	L3101	L3501	L3501
Compression Roller (chrome)	L3105	L3505	L3105	L3505	L3505
Control Panel Fuse 5a (2 required)	Ls0009	Ls0009	Ls0009	Ls0009	Ls0009
Main Fuse (2 required)	L3601	L3601	L3601	L3601	—
Main Fuse (3 required)	—	—	—	—	Ls0015
Hotknife Fuse 10a (2 required)	Ls0008	Ls0008	Ls0008	Ls0008	Ls0008
Idler Sprocket	L0719	L0719	L0719	L0719	L0719
Jackshaft Sprocket (large)	L3106	L3106	L3106	L3106	L3106
Jackshaft Sprocket (small)	L3107	L3107	L3107	L3107	L3107
Motor Sprocket	L3025	L3025	L3025	L3025	L3025
Jack Screw	—	—	—	—	L2510

PRODUCTION TECHNICAL BULLETIN

HMT MANUFACTURING, INC.

HOT MELT ADHESIVES

General Description

HMT's hot melt adhesives are clear medium viscosity adhesive films. The films are fast setting and thermoplastic in nature, designed for handling a wide variety of materials.

Physical Properties

Color	Clear		
Form	Film		
Solids	100%		
Filler	None		
Viscosity @ 375° F	30,000 cps		
Viscosity @ 400° F	20,000 cps		
Dead Load Failure	210° F		
Softening Point	206°-212° F		
Open Time	3-5 seconds maximum		
Application Temp	375°-425° F (with HMT equipment)		
All three formulations are very compatible	Cloud point below 120° F		
	STD	HTP	HLTP
Ring & Ball Softening Point (R&B)	206.6° F	208.4° F	212° F
Shear Adhesive Failure Temperature (SAFT)	190.4° F	197.6° F	195.8° F
Open Time	<3s	<3s	<3s

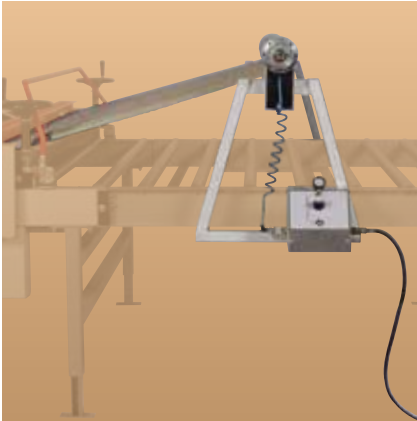
HMT Manufacturing, Inc. is available to help purchasers obtain best results for our products. Recommendations are based on tests and information believed to be reliable. However, we have no control over the conditions under which our products are stored, handled, or used by purchasers and in any event, all recommendations and sales are made on condition that we will not be held liable for any damage resulting from their use, or that such information will infringe a patent.

VOC (Volatile Organic Compounds) Information under the EPA method 24:

Methods & Equipment: Thermal Gravimetric Analyzer (TGA) - no VOC's under 300° C / 572° F

OPTIONAL ACCESSORIES AVAILABLE

ROLL STOCK FEED ATTACHMENT



The optional roll stock feed attachment allows users to easily feed rolled stock laminate material (such as melamine, gator ply, fabric, etc). The unit is fitted with 3" (7.6 cm) core chucks and an air clutch which supplies consistent tension across the pay out bar.

HOT KNIFE ADHESIVE CUTTER



The optional hot knife adhesive cutter is a heated arm that reaches across the width of your laminator. The operator won't need to bend over the panel to cut adhesive. Instead, a quick flick of the wrist pushes the arm through the adhesive, making a fast and clean cut.

INFEEED & OUTFEED CONVEYORS



These conveyors extend the length of the machine, making it easier to handle full size panels. Your laminating machines can be fitted with additional conveyor sections as needed. Conveyor sections are available in 5' (152 cm) lengths and can be ordered with or without legs.



(800) 433-0730 or (847) 473-2310
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