3D Laminate Press Settings

START HERE • THEN TUNE ONE VARIABLE

THE CUSTOMER ANSWER

These are controlled starting settings—not a universal recipe.

Confirm the press mode, laminate construction/finish, adhesive, part geometry and actual glue-line temperature before production approval.

READ THE TEMPERATURES CORRECTLY

PLATEN DISPLAY	Machine heat source; not the vinyl temperature.
MEMBRANE	Usually lower than the platen display.
GLUE LINE	Target about 70–80°C / 158–176°F; verify with thermal labels.

DACKOR PUBLISHED ANCHORS

12 mil • Wemhöner

127°C top • 107°C membrane • 20s preheat • 8s vacuum • 35s press • 4 bar

Perfect Touch example

120°C top • 105°C membrane • 30s preheat • 3s vacuum • 15s press • 5 bar

CHOOSE THE MACHINE FAMILY

MEMBRANE

Wemhöner / Italpresse

Use Page 2. Membrane transfers heat more evenly; recipes typically use a hotter platen and shorter preheat.

First wrinkle move: reduce top and membrane heat 3–5°C; add 3–5 seconds preheat if forming becomes weak.

MEMBRANELESS

Positive-pressure air press

Use Page 3A. Foil can heat unevenly; favor lower temperature and longer soak rather than simply turning up the platen.

Confirm the exact model and whether the selected program is truly membrane-free.

VACUUM-ONLY

Vac-U-Clamp style

Use Page 3B. Published baseline: 215–225°F preheat setpoint • 60s preheat • 90s press • 30–45s cool.

Dog ears: +5°F and +10s press. Wrinkles: reduce heat and/or time.

Starting Recipes by Vinyl Thickness

STANDARD PVC • MATTE / WOODGRAIN

WEMHÖNER • WITH MEMBRANE

Direct Dackor anchor at 12 mil; remaining rows are field-development ranges derived from the cited anchors and thickness trend.

VINYL	TOP PLATEN	MEMBRANE	PREHEAT	VACUUM	PRESS	COOL	PRESSURE
12 mil / .30 mm	127°C / 261°F	107°C / 225°F	20s	8s	35s	35s	4 bar
14 mil / .35 mm	125–127°C 257–261°F	105–107°C 221–225°F	22–24s	5–8s	32–35s	25–35s	4 bar
16 mil / .40 mm	123–126°C 253–259°F	103–106°C 217–223°F	25–28s	5–8s	30–35s	25–35s	4 bar
17 mil / .43 mm	123–125°C 253–257°F	103–105°C 217–221°F	26–30s	5–8s	30–35s	25–35s	4 bar
18 mil / .46 mm	121–124°C 250–255°F	101–104°C 214–219°F	29–34s	5–8s	30–38s	28–38s	4 bar
20 mil / .50 mm	119–123°C 246–253°F	99–103°C 210–217°F	33–40s	5–8s	32–42s	30–40s	4 bar

ITALPRESSE • WITH MEMBRANE

Confirm model/program. These are membrane-mode starts—not membrane-less Lock-Form/Estrema values.

VINYL	TOP PLATEN	MEMBRANE	PREHEAT	VACUUM	PRESS	COOL	PRESSURE
12 mil / .30 mm	125–127°C 257–261°F	105–107°C 221–225°F	20–24s	5–8s	30–38s	25–35s	4 bar
14 mil / .35 mm	123–126°C 253–259°F	103–106°C 217–223°F	23–27s	5–8s	30–38s	25–35s	4 bar
16 mil / .40 mm	122–125°C 252–257°F	102–105°C 216–221°F	25–30s	5–8s	32–40s	27–37s	4 bar
17 mil / .43 mm	121–124°C 250–255°F	101–104°C 214–219°F	27–32s	5–8s	32–40s	28–38s	4 bar
18 mil / .46 mm	120–123°C 248–253°F	100–103°C 212–217°F	30–35s	5–8s	34–42s	30–40s	4 bar
20 mil / .50 mm	118–122°C 244–252°F	98–102°C 208–216°F	34–42s	5–8s	36–46s	32–42s	4 bar

Rule: thicker does not automatically mean hotter. Give heat time to penetrate; watch the surface for excess growth, gloss shift and hot tears.

Membraneless + Vac-U-Clamp

A • ITALPRESSE-STYLE MEMBRANELESS POSITIVE PRESSURE

Derived commissioning ranges. A 0.40 mm membrane-less reference uses 110°C platen, 50s preheat, 5s vacuum/inflation and 40s press; model logic varies.

VINYL	UPPER PLATEN	LOWER TRAY*	PREHEAT	INFLATE / VAC	POSITIVE PRESS	COOL	PRESSURE
12 mil	110–114°C 230–237°F	≈50°C / 122°F	40–45s	5s	38–42s	25–35s	4–4.5 bar
14 mil	109–113°C 228–235°F	≈50°C / 122°F	45–50s	5s	40–42s	25–35s	4–4.5 bar
16 mil	108–112°C 226–234°F	≈50°C / 122°F	48–55s	5s	40–45s	28–38s	4–4.5 bar
17 mil	107–111°C 225–232°F	≈50°C / 122°F	50–60s	5s	40–45s	30–40s	4–4.5 bar
18 mil	106–110°C 223–230°F	≈50°C / 122°F	55–65s	5s	42–47s	32–42s	4–4.5 bar
20 mil	104–109°C 219–228°F	≈50°C / 122°F	60–72s	5s	45–50s	35–45s	4–4.5 bar

**Only when the press has controlled lower-tray heat. If the center touches the platen first, lower heat and lengthen/even out preheat.*

B • VAC-U-CLAMP / VACUUM-ONLY

PUBLISHED BASELINE

165°F bed • 215–225°F heater/preheat • 60s preheat • 90s vacuum press • 30–45s cooling

VINYL	HEATER / PREHEAT	PREHEAT	VACUUM PRESS	COOL
12 mil	215–225°F / 102–107°C	55–65s	85–95s	30–45s
14 mil	212–223°F / 100–106°C	60–72s	88–100s	30–45s
16 mil	210–220°F / 99–104°C	68–82s	92–108s	35–50s
17 mil	208–218°F / 98–103°C	72–88s	95–112s	35–50s
18 mil	206–216°F / 97–102°C	78–94s	98–118s	38–52s
20 mil	203–214°F / 95–101°C	85–105s	105–125s	40–55s

ADJUSTMENT ORDER

1 Dog ears → +5°F, +10s press

2 Wrinkles → reduce heat/time

3 Weak draw → add soak before heat

Vac-U-Clamp rows beyond the published baseline are derived trial ranges.

One-Change Troubleshooting Card

WRINKLES / GHOSTING

WHAT IT LOOKS LIKE

Film looks loose, folded or leaves a shadow where a fold stretched out.

LIKELY DRIVER

Too much heat exposure; film growth; poor layout or sliding.

FIRST MOVE

Reduce top/membrane 3–5°C or shorten preheat. Add a dummy part beside large components. If definition weakens, restore heat by adding 3–5s soak—not a large temperature jump.

COLD TEAR / BLOWOUT

WHAT IT LOOKS LIKE

Irregular, jagged split; often at a corner or deep profile. Film may look stiff or white.

LIKELY DRIVER

Heat has not soaked through; thick film, cold zone or draw too aggressive.

FIRST MOVE

Add preheat in small steps. Check heater uniformity, spacing and pedestal height. For 16–20 mil, favor longer soak before raising peak temperature.

HOT TEAR / BLOWOUT

WHAT IT LOOKS LIKE

More uniform round, oval or teardrop-shaped hole; surrounding film may look very soft or thinned.

LIKELY DRIVER

Too much temperature or exposure; dark film or hot center absorbs energy quickly.

FIRST MOVE

Lower temperature 3–5°C and/or shorten preheat. Check actual membrane/film temperature. Do not fix a hot center by increasing total heat.

COLOR + FINISH CHANGE THE RECIPE

- Dark colors can absorb heat faster and develop a hot surface while the core is still cold.
- High gloss / super matte often prefer lower temperature and longer preheat to protect appearance.
- Embossing, protective films and pigment systems can change heat transfer. Treat every color/finish change as a controlled trial.

RELEASE ONLY AFTER VERIFICATION

- ■ Record machine/model, mode, color, finish, thickness and lot
- ■ Confirm adhesive coat weight/dry time and 70–80°C glue-line activation
- ■ Check fiber pull after cooling; inspect corners, gloss, texture and backside
- ■ Change one variable at a time; save the approved recipe by SKU/lot

SOURCE LINKS + SCOPE

Dackor • Vac-U-Clamp settings + production blog

Dackor • Pressing 3D Laminates and Blow Outs

Wemhöner • Variopress Basic Plus

Italpresse • Vacuum / membrane presses

INTERNAL BASIS

Customer-setting and temperature-limit conversations supplied by the user; public-source claims rechecked August 2026.

IMPORTANT

Dackor guidance is a baseline for testing—not a warranty, absolute maximum, or substitute for the press, laminate and adhesive manufacturers' current technical instructions. Final settings must be validated on the customer's actual finished component.