

TECHNOLOGY EXPLAINED

A quick guide to profile wrapping

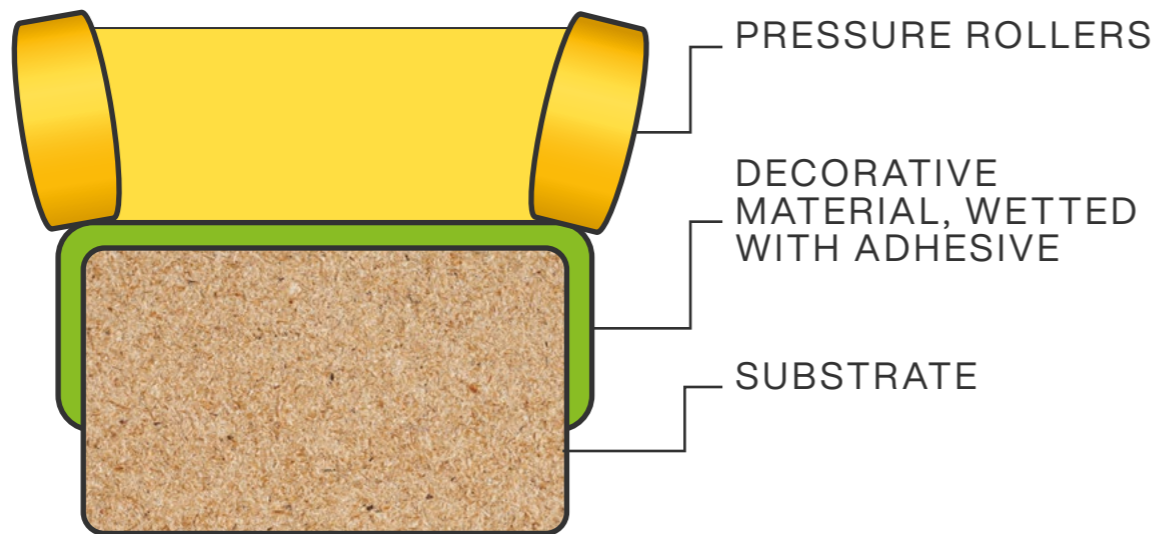


A COMPANY OF CEFLA

What is profile wrapping?

Profile wrapping is a process by which a decorative surface is laminated onto a substrate in linear form. This is done by means of a profile wrapping machine.

QUICK SCHEME: HOW IT WORKS



IN REAL LIFE, THE WRAPPING PROCESS LOOKS LIKE THIS



AND THIS IS A TYPICAL PROFILE WRAPPING LINE



Laminating or foiling?

As a manufacturer of profile wrapping lines, we refer to the process mentioned above as **profile wrapping**.

In different sectors, people use different names – but they always refer to the same process.

Speaking of **laminating**, we usually refer to the lamination of larger surfaces, for example of doors. We also offer great expertise – and lines – in laminating.



THIS IS:
**profile
wrapping**

THIS IS:
laminating

Where do I see profile wrapping in everyday life?

Wrapped products - WOOD



5-piece doors



Drawers



Cornices / Crown Moulding



Plinth panels



Skirting boards / Flooring



Other profile geometries

Where do I see profile wrapping in everyday life?

Wrapped products - PVC



Window frames + Spacers



Elements for shutters



Other PVC profiles

Why profile wrapping has become so universal?

AS A FINISHING PROCESS, PROFILE WRAPPING HAS SOME GREAT ADVANTAGES:



It is economical since it gives inexpensive substrate made out of scraps an attractive finish.



It is a relatively simple process that requires less steps than other finishing processes.



Consistent quality of the surface (if the line is equipped with components that guarantee good quality).



High flexibility, many different colours and types of surface material can be applied.



High output: depending on the line and profile you can produce at up to 110 m/min.

Which materials can be wrapped?

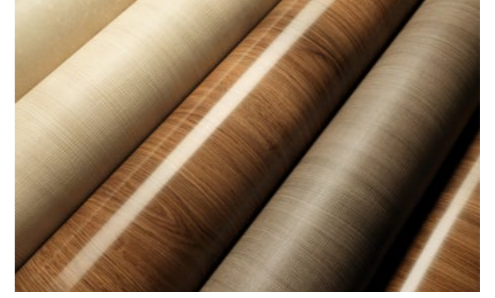
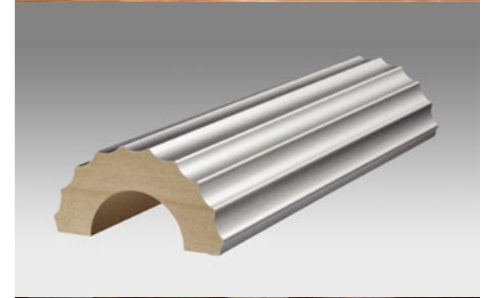
SUBSTRATE

- HDF
- MDF
- Particle Board
- Plywood
- Wood
- WPC
- PVC
- Aluminium

And what's on top?

SURFACE MATERIALS

- PP
- PVC
- PET
- Paper
(also digitally printed)
- Fleece backed veneer on reels
- Veneer sheets
- CPL
- HPL



If you want to wrap, you'll need some glue...

Nowadays, profile wrappers mostly work with hot melt glue. It allows you to achieve high production speeds.

The choice of the glue depends on cost, whether it will be exposed to humidity as well as ecological aspects.

TYPE OF GLUE	EVA	APAO	PUR
INTERIOR / EXTERIOR USE OF PROFILES	Interior	Interior	Interior and exterior (resists humidity)
PROCESSING TEMPERATURE	160 - 200 °C	200 - 250 °C	120 - 160 °C
REACTIVATION TEMPERATURE	80 - 100 °C	110 - 130 °C	Cannot be reactivated
USUAL PACKAGING	Granulate	Granulate	Blocks
PRICE LEVEL	€	€€	€€€
SPECIAL SKILLS	Low melting point is suitable for thermoplastic foil	Especially suitable for rigid materials like CPL	Water resistant (windows!) Low quantities are sufficient

ADVICE
NEVER USE „FILLED“ (= IMPURE) ADHESIVE IF YOU WOULD LIKE TO ACHIEVE HIGH- QUALITY RESULTS!

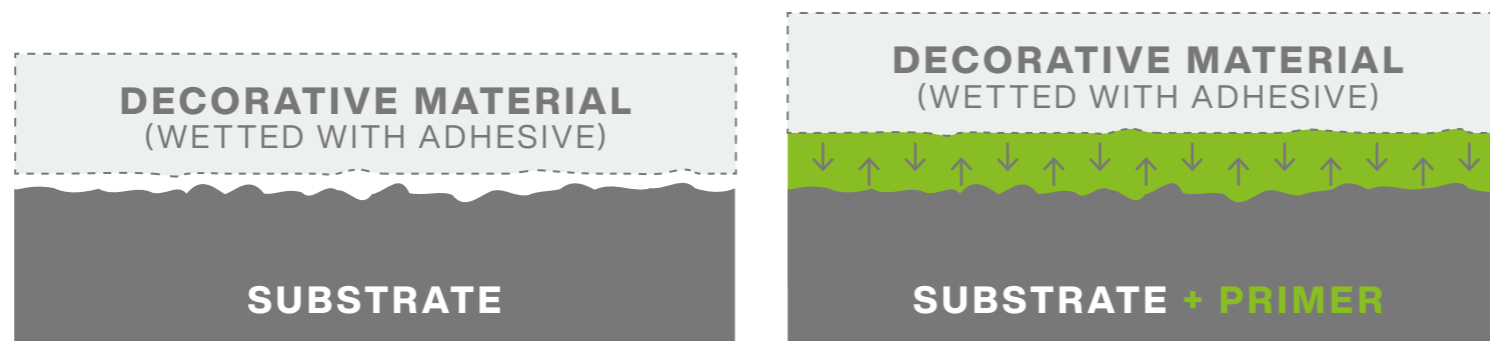


WE'RE WORKING INDEPENDENTLY FROM A SPECIFIC GLUE SUPPLIER AND WILL ALWAYS SUPPORT YOU TO FIND THE BEST POSSIBLE ADHESIVE FOR YOUR PROCESS

Anything else? Primer!

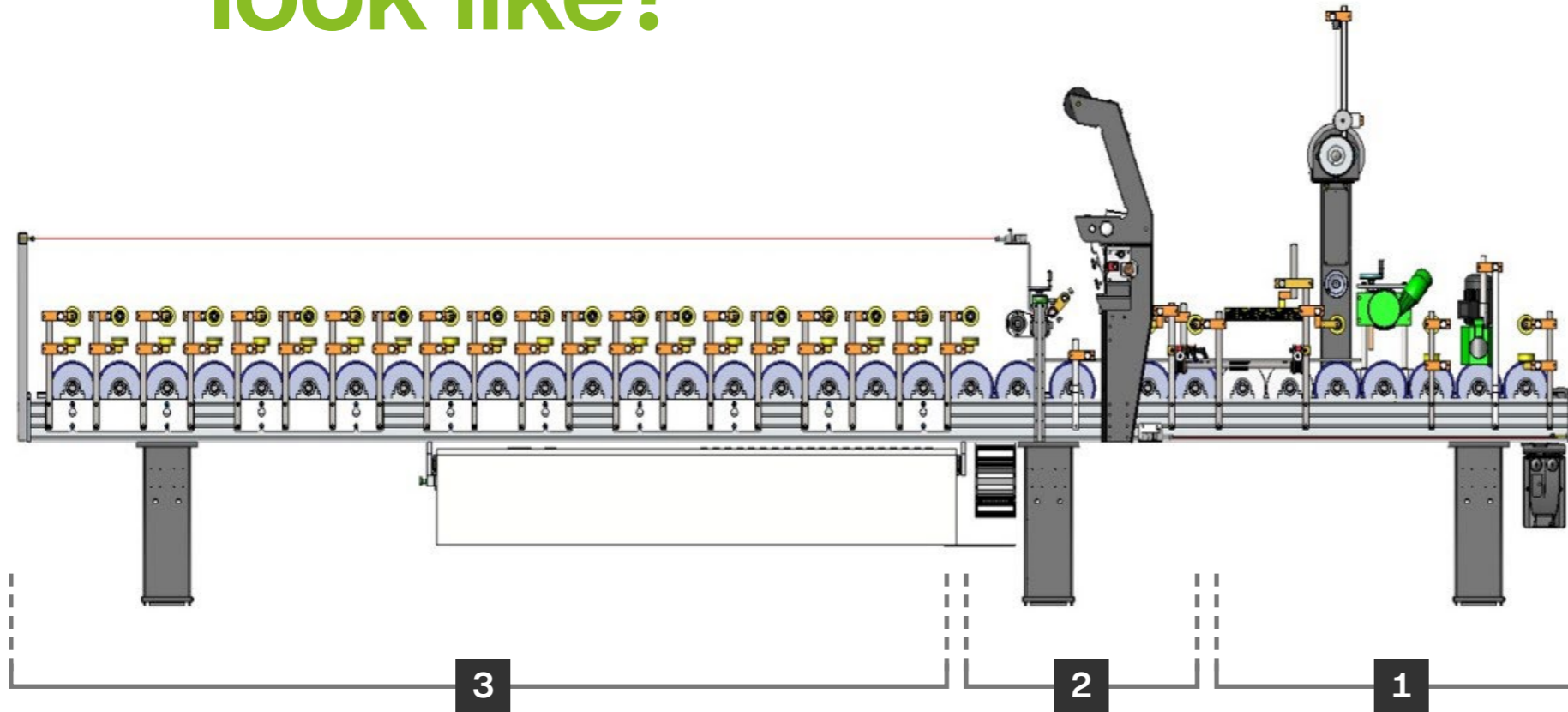
The surface tension of PVC profiles would have a negative effect on the quality of the bonding between surface material and substrate. Before the wrapping starts, but on the same line, it is important to apply primer to the substrate in order to reduce the surface tension and enable a good and lasting adhesion.

↓
PROFILES MADE FROM **WOOD** OR **COMPOSITES** DO NOT REQUIRE A TREATMENT WITH PRIMER



What does a profile wrapping line look like?

GUIDE TO PROFILE WRAPPING



- ✓ Substrate
- ✓ Primer
- ✓ Glue
- ✓ Surface material

THERE ARE BOTH STAND-ALONE MACHINES AND CONNECTED MACHINES, FOR EXAMPLE WITH PVC EXTRUDERS OR MOULDERS.

This is just a simplified example – every line is different and has to be composed according to the customer's needs!

3 WRAPPING ZONE

- Starts with pressure and guide roller (where the foil first meets the profile)
- Equipped with pressure rollers of different shapes and degrees of hardness
- Length depends on profile geometry
- Additional hot air fans to keep glue liquid
- Special tools (like blades, etc.) if required

2 GLUE APPLICATION

- Slot nozzle (connected to premelter)
- Optionally: foil heating system

1 ENTRY ZONE

- Cleaning (brushes, deionisation)
- Unwinding station for surface material
- Heating up of substrate (IR lamps)
- For PVC profiles: primer application + drying zone

WHITE PAPER BY DÜSPOHL

How does the profile actually enter the line?

Especially in the PVC sector, many companies feed the machine manually, that means that an operator is constantly inserting the bare profiles into the machine. In case you wish to produce at a higher speed, an automated solution is required. Which type of infeed system you need depends on the type of profile (stackable, flat or with lateral flank, ...)



MANUAL FEEDING



BELT MAGAZINE

BEFORE

About melt glue: how does the glue reach the slot coater?

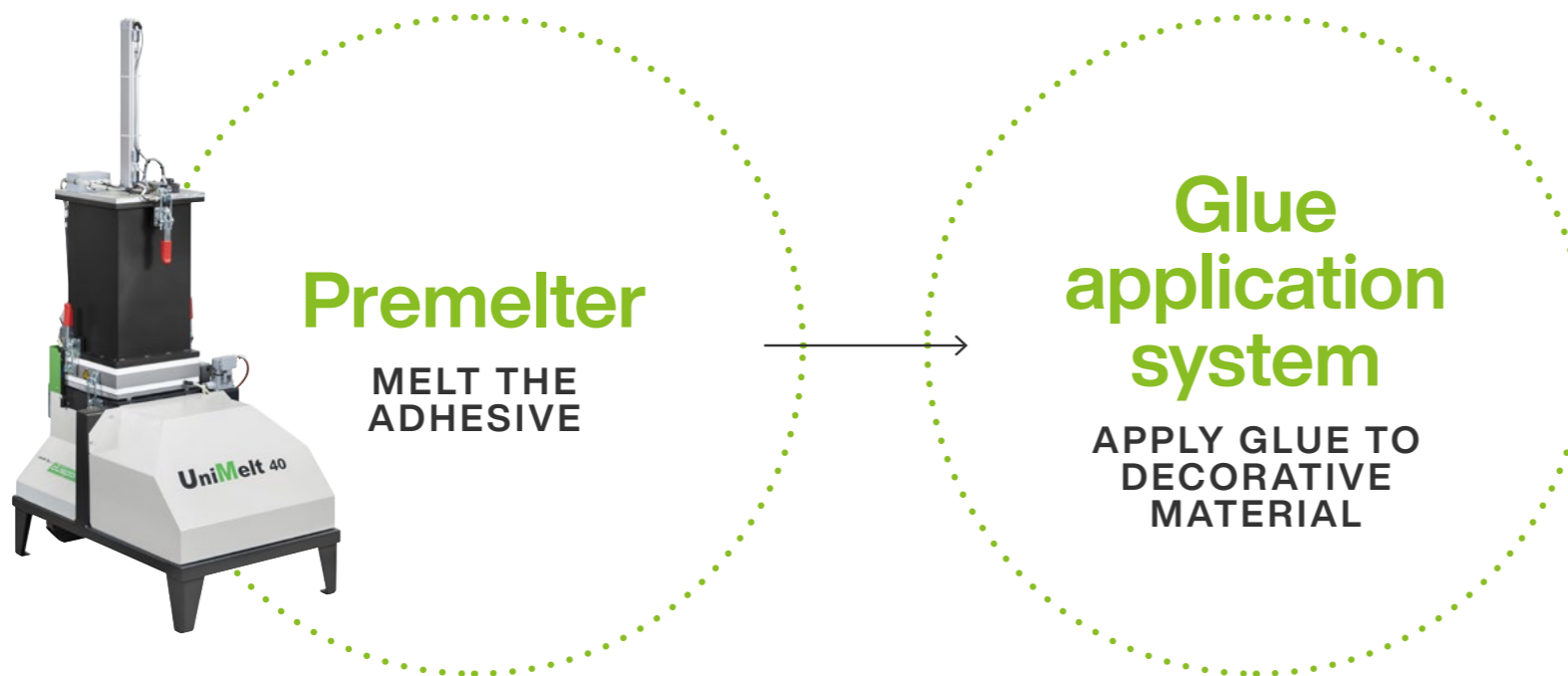
Apart from a profile wrapping line, you obviously need a premelter to make the adhesive liquid.

Düspohl offers energy-efficient and high-performance premelters for EVA, APAO and PUR manufactured in-house.

They are available as retrofit components or along with a great new profile wrapping line.



DÜSPOHL'S
COMPACT SOLUTION
EASYWRAP INCLUDES
AN INTEGRATED
PREMELTER THAT
MELTS UP TO 30 KG/H.



AFTER Once it's been wrapped, what comes last?

After being wrapped, the profiles need to be separated since the surface material is endless and connects them.

In the PVC sector, this is often done by an operator. For both, wood and PVC sectors, Düspohl offers high performance cut-off solutions, mostly saws.

At the very end of the line, there will be an operator or an automatic outfeed system.



VERTICAL SAW (E.G. FOR DRAWERS)



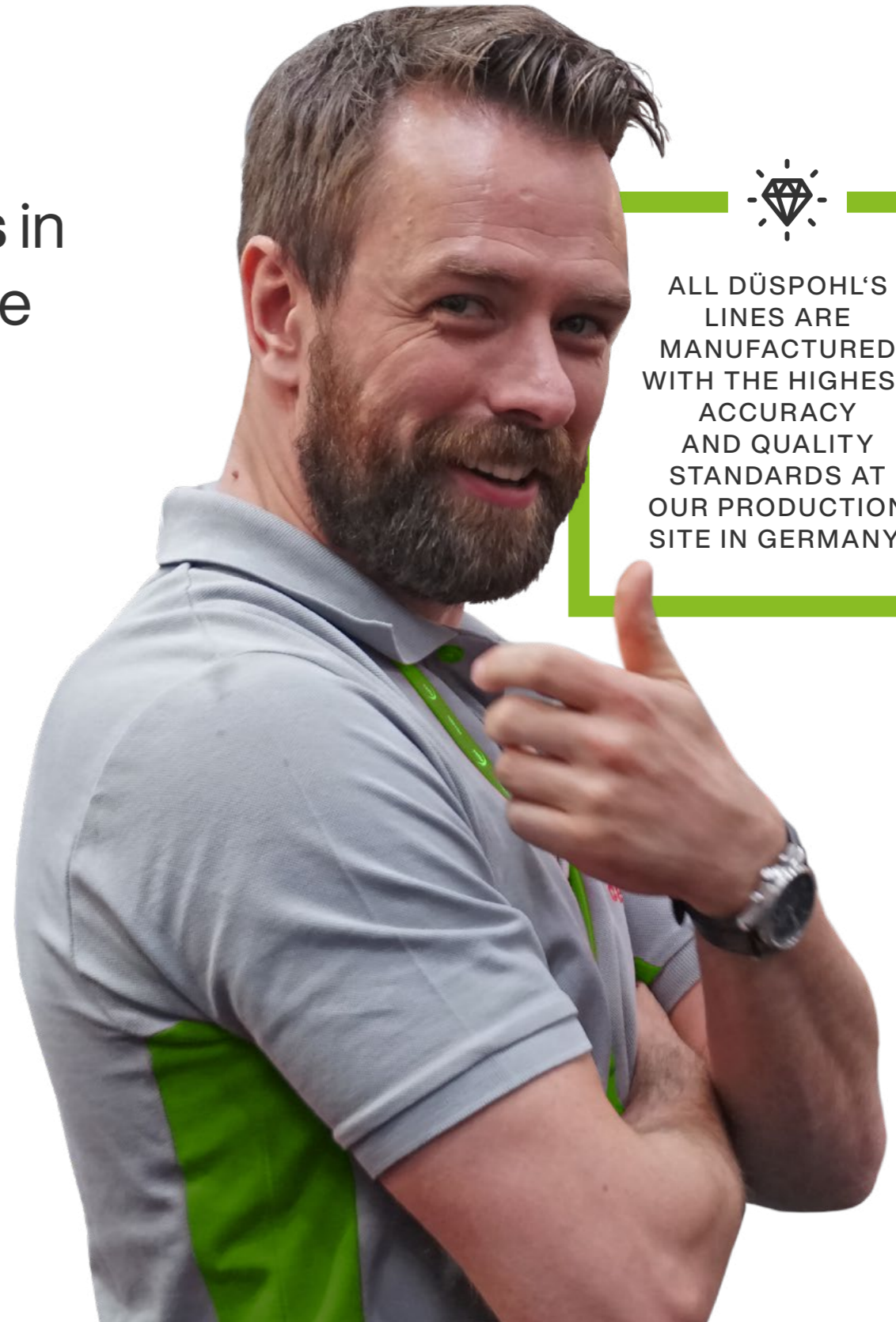
AUTOMATIC OUTFEED SYSTEM

Why should I work with Düspohl?

- **Most innovative solutions** in profile wrapping worldwide
- **50 years** of experience
- Every machine designed to **meet the specific project needs**
- **Large variety** of high quality components
- **Highly skilled sales engineers** to advise you on the entire process



ALL DÜSPOHL'S LINES ARE MANUFACTURED WITH THE HIGHEST ACCURACY AND QUALITY STANDARDS AT OUR PRODUCTION SITE IN GERMANY.



Let's meet the Düspohl team



Benjamin Demirel

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