



Formenfrei 3D GmbH

The important last centimetre in adhesive application

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Structure



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- About Formenfrei 3D
- The important last centimetre
- Flow optimization of nozzles
- Application of a manifold Nozzle
- Application of a Y-shaped nozzle
- Success with customized nozzles

Formenfrei 3D – your strong partner



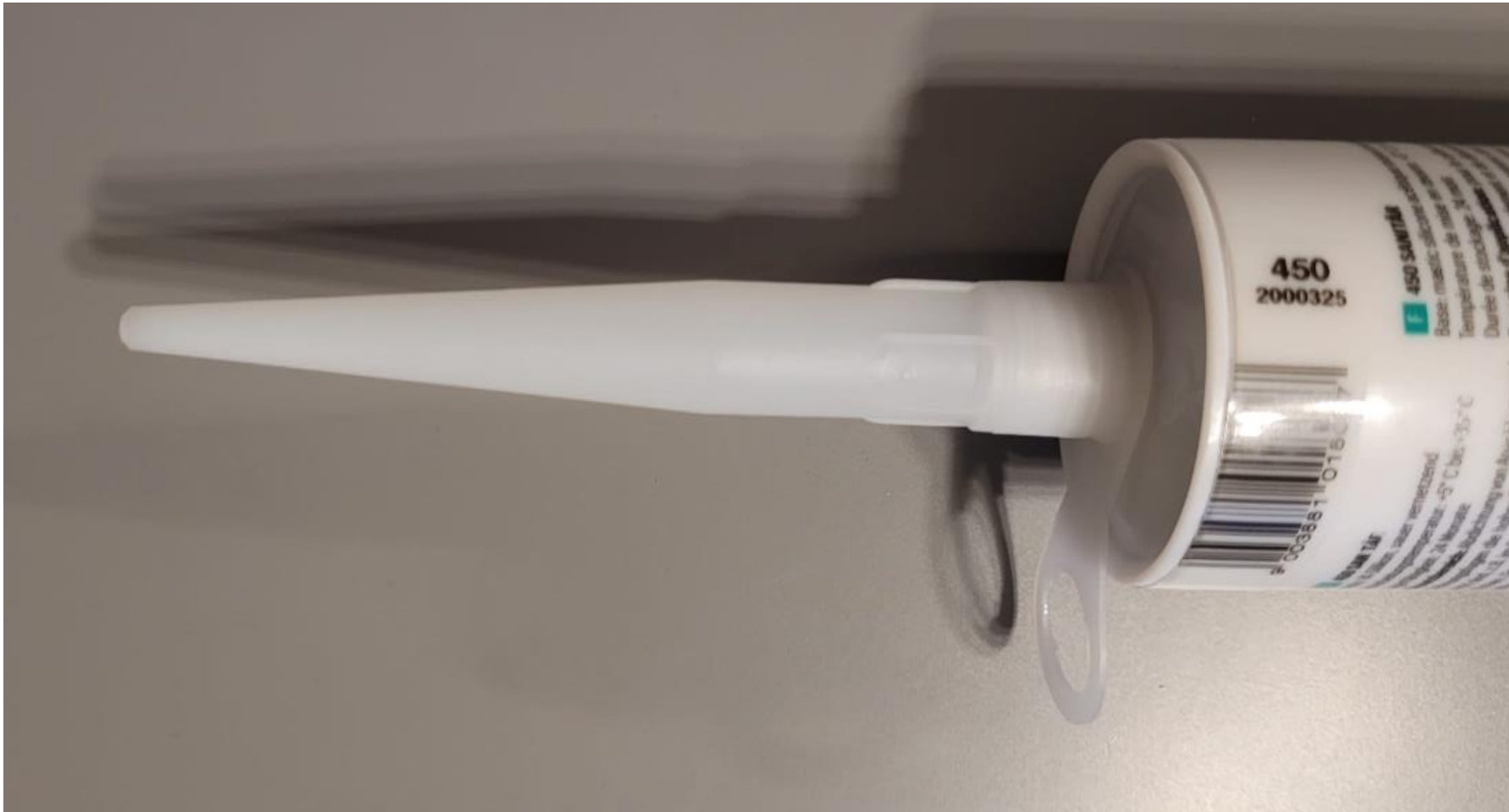
Formenfrei 3D GmbH

- ✓ We specialise in the development and manufacture of customised adhesive application nozzles and static mixers for optimal bonding processes.
- ✓ We offer a unique combination of experience and background knowledge in bonding processes, CAD design, flow simulations and 3D printing.
- ✓ We offer to you a free initial consultation to clarify whether and how we can help you.

The important last centimetre



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The important last centimetre



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What does a perfect nozzle do:

- Defines the mass of used adhesive
- Defines the shape of the bead
- Defines the location
- Can apply more than one bead

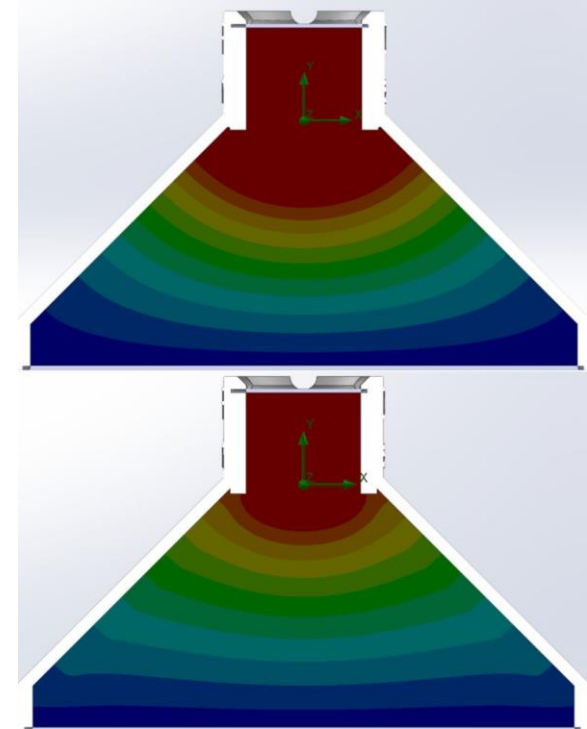
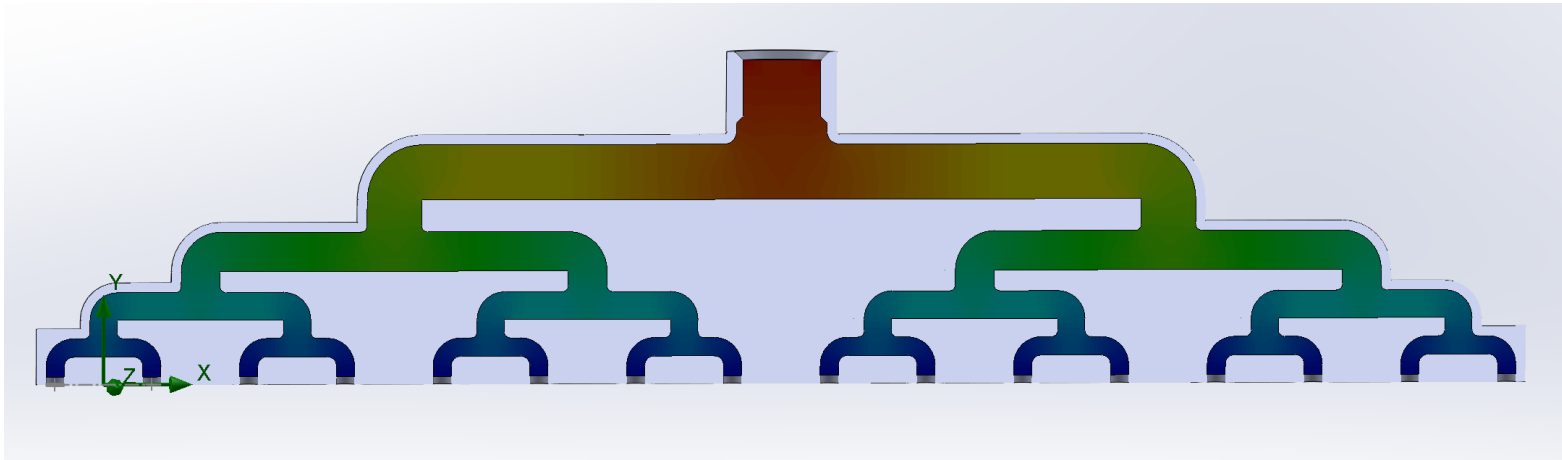


Flow optimization of adhesive nozzles

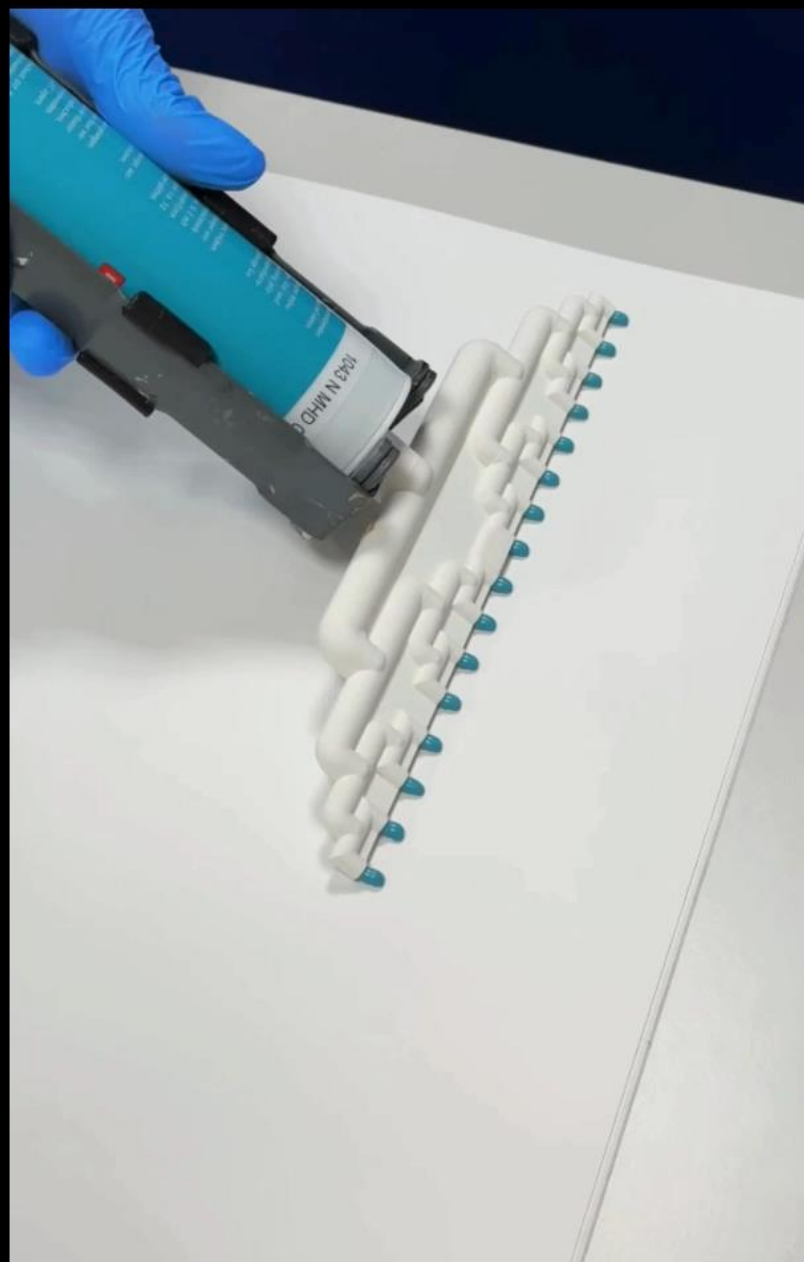


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- The perfect amount of adhesive on every point of the nozzle



Flow optimization of a wide slot nozzle



Application of a manifold Nozzle



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Typical usecases in construction

- apply boards to walls
- apply flooring like parquet
- every application, where now toothed spatulas are used

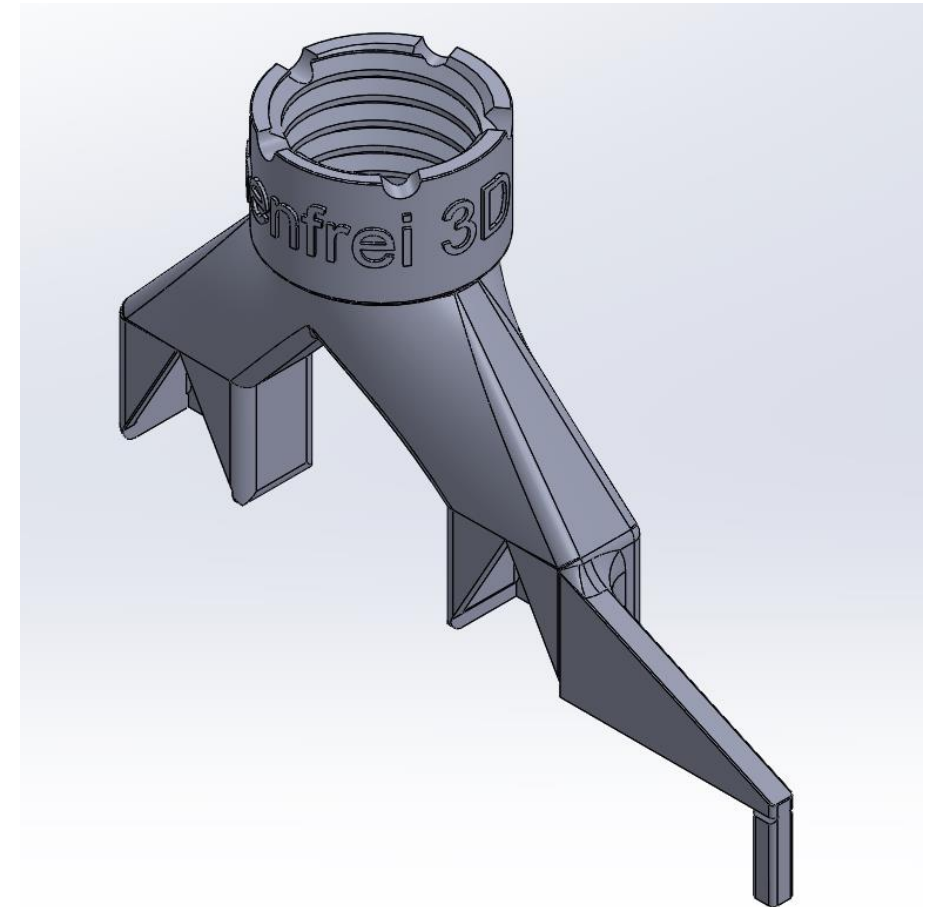
Application of a Y shaped nozzle



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Typical usecases

- apply adhesive to profile systems for boards
- facades, plasterboards



Why customised adhesive application nozzles?



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Because without the right nozzles for repetitive processes

- waste a lot of money
- do not ensure the quality of the bonding
- endanger employees
- work unsustainably

Measurable success through the use of suitable adhesive application nozzles



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Although customized adhesive application nozzles are more expensive than series products, you can save a lot of money with them

- In manual application
 - Calculate the savings in labour costs. What is the process like today and what would be the optimum process? How much faster can the employee work with suitable nozzles?
 - How much adhesive is applied in excess and disappears in cracks or is wiped off? All this adhesive is wasted and can be saved by using suitable nozzles.
 - There are fewer risks when applying adhesive. The nozzle defines where and how much adhesive is applied, which reduces the demands on employees.
 - How great is the benefit for quality assurance and reducing the workload for employees?

adhesive application nozzles



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- ✓ are ready to use
- ✓ are easy to use
- ✓ are flow-optimized
- ✓ can be manufactured with any mount (thread, clamping...)
- ✓ have guides that allow the adhesive to be applied at a defined point
- ✓ contain suitable outlets so that the adhesive application quantity is optimally defined
- ✓ can be manufactured with multiple outlets to apply several beads in one operation



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