Laminations and Lamination Stacks of Electric Motors and Generators for Higher Power Density and Higher Efficiency

VAM
CEO Dr. -Ing KANG, DOHYUN
www.vamecha.com
dowajuge@gmail.com
82-(0)10-3582-7056
March 25 2020

CONTENTS

Value Added Mechatronics

1. Partner with LCD LaserCut AG

Value Added Mechatronics

❖VAM is a partner with LCD LaserCut AG in Swiss

❖High precision laser cutting technology

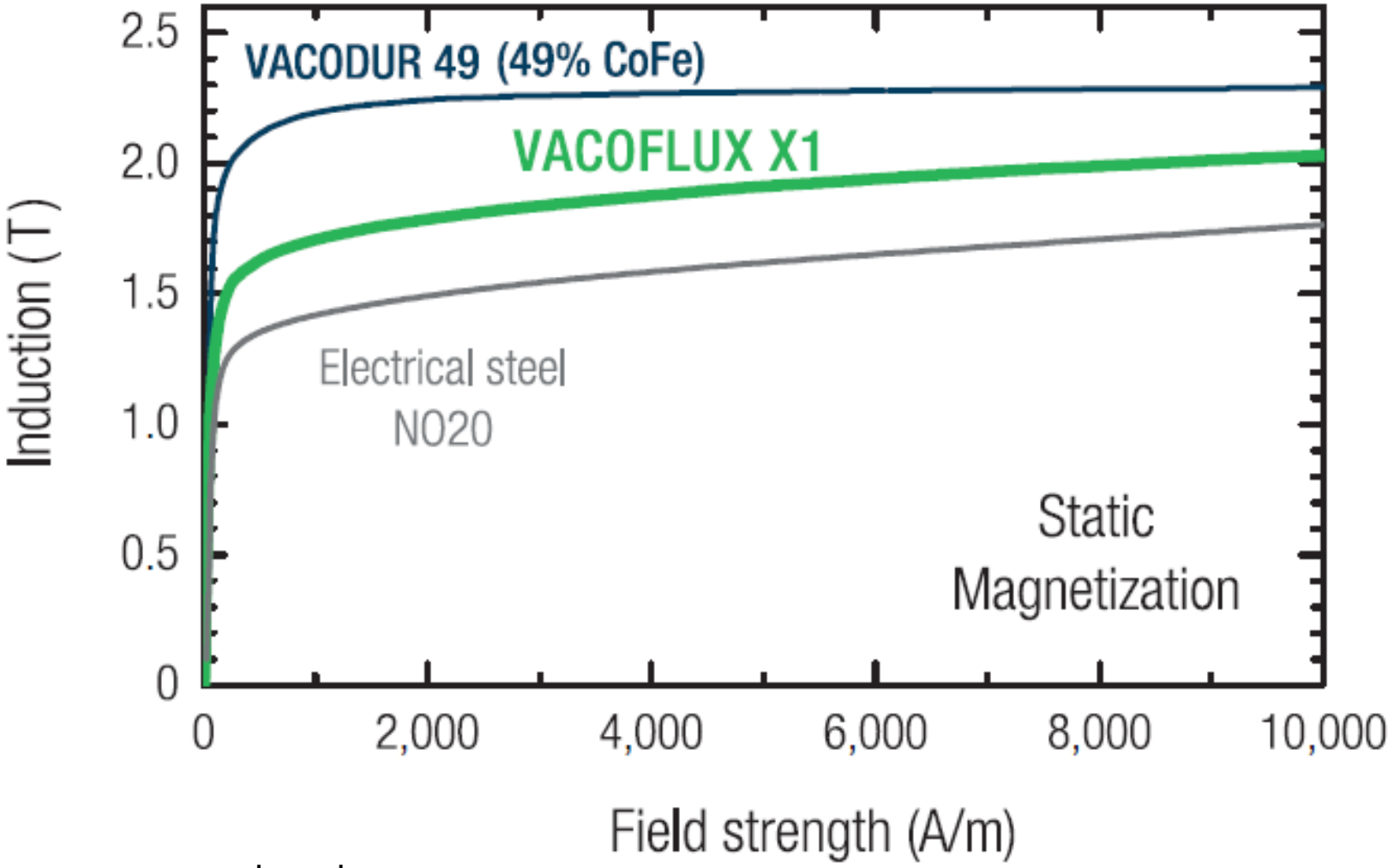
- 0.03-0.04mm, tolerances class IT8/9, burr free

❖Production of stacks and sub-assembly groups

- Bonding varnish, laser welding, ...
- Material grades FeSi, FeCo, FeNi, Cu, etc.
- Dimensions ~3mm up to Ø<1‘200mm one piece,
- Lamination thickness 0.1mm (hair) up to 1.0mm

Ref. :LCD LaserCut AG

2. Lamination Stacks by Cobalt-iron

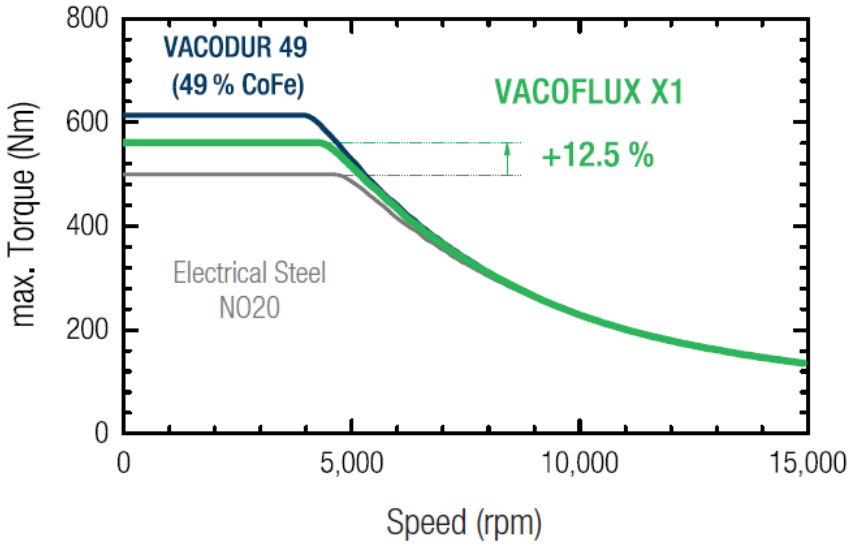


Ref. :www.vacuumschmelze.com

2. Lamination Stacks by Cobalt-iron

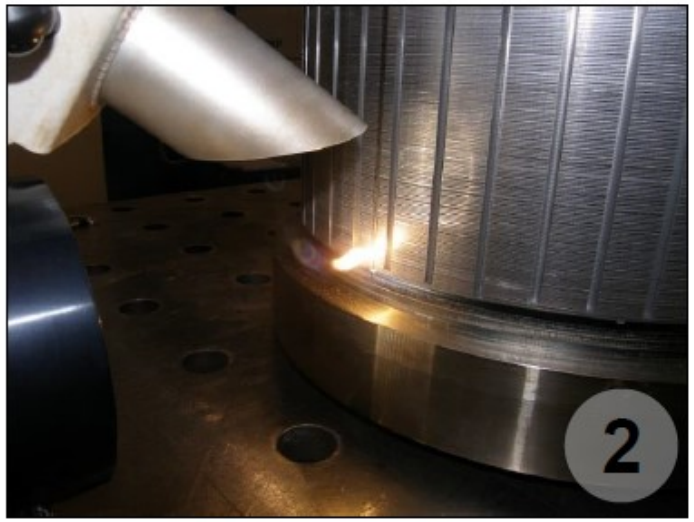
MOTOR DATA

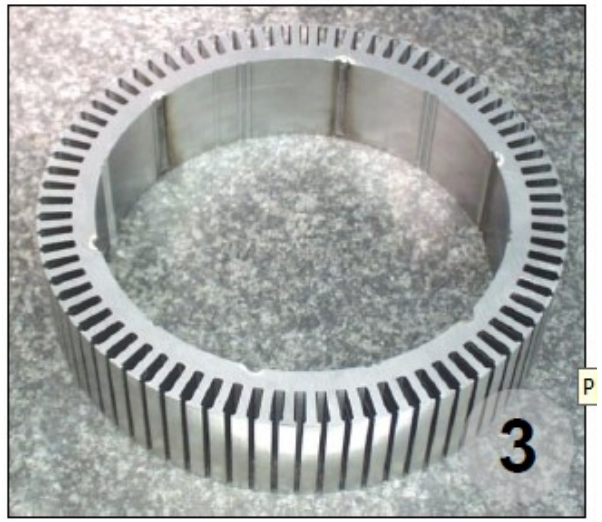
- Max. power 250 kW
- Weight 92 kg
- Power density 2.7 kW/kg
- Torque density 6.1 Nm/kg



Ref. :www.vacuumschmelze.com

3. Stacking Technology





1 Bonding (Backlack)

2 Laser welding

3 Welding

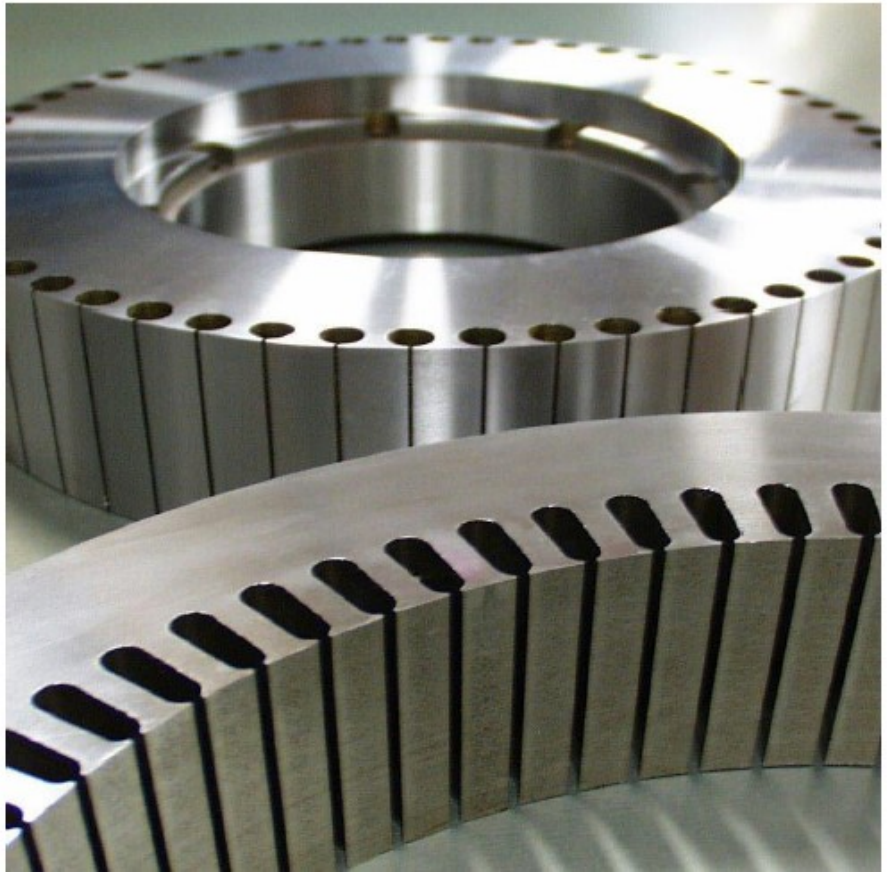
4 Interlocking simulation

5 Riveting

Ref. :LCD LaserCut AG

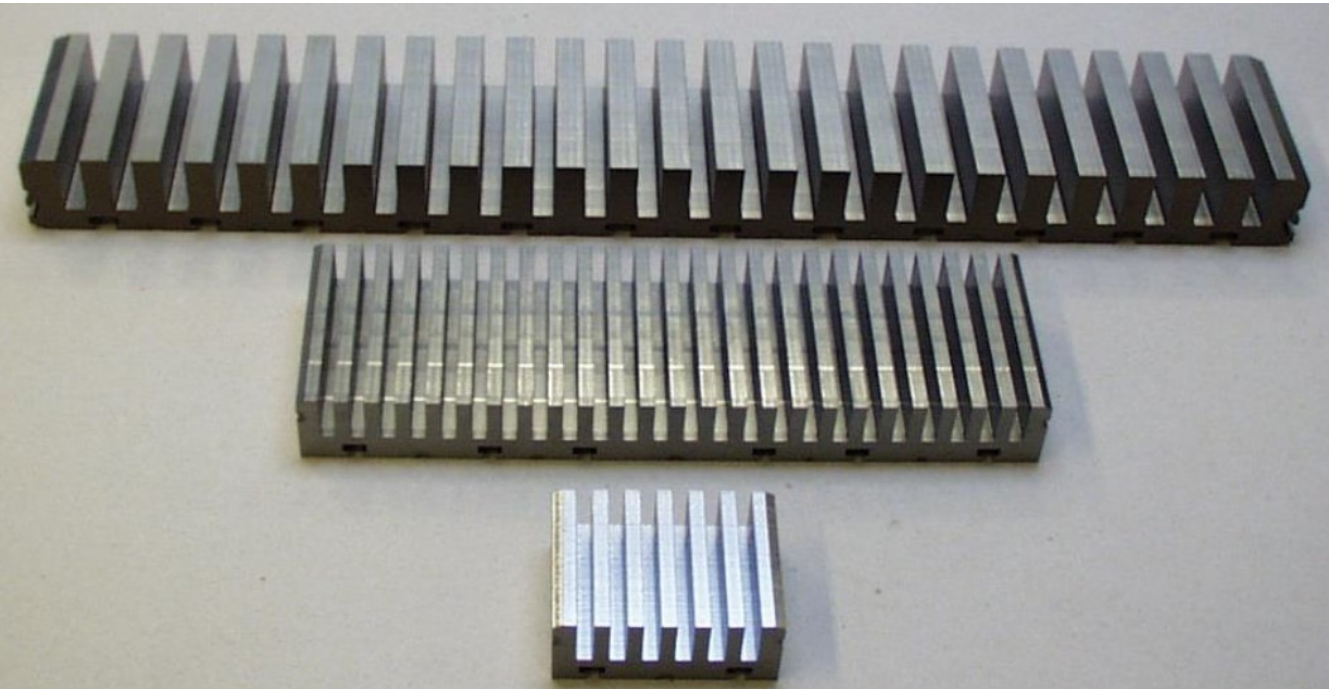
4. Bonding

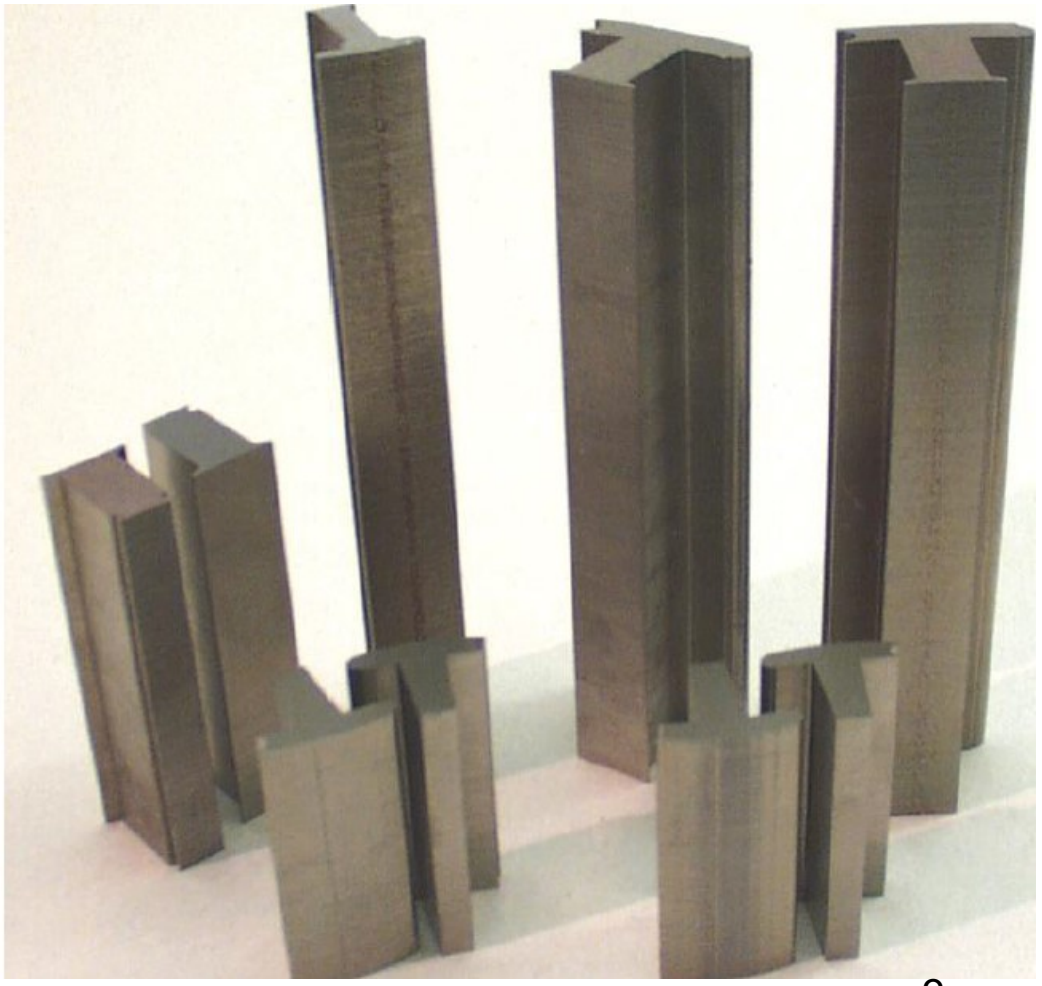
Induction machine stacks. The rotor stack features machined sections.



Small / Medium series production
Laser cut NO20 laminations. Bonded stacks. 600-700 units per year.
Production set-up with multiple bonding tool.

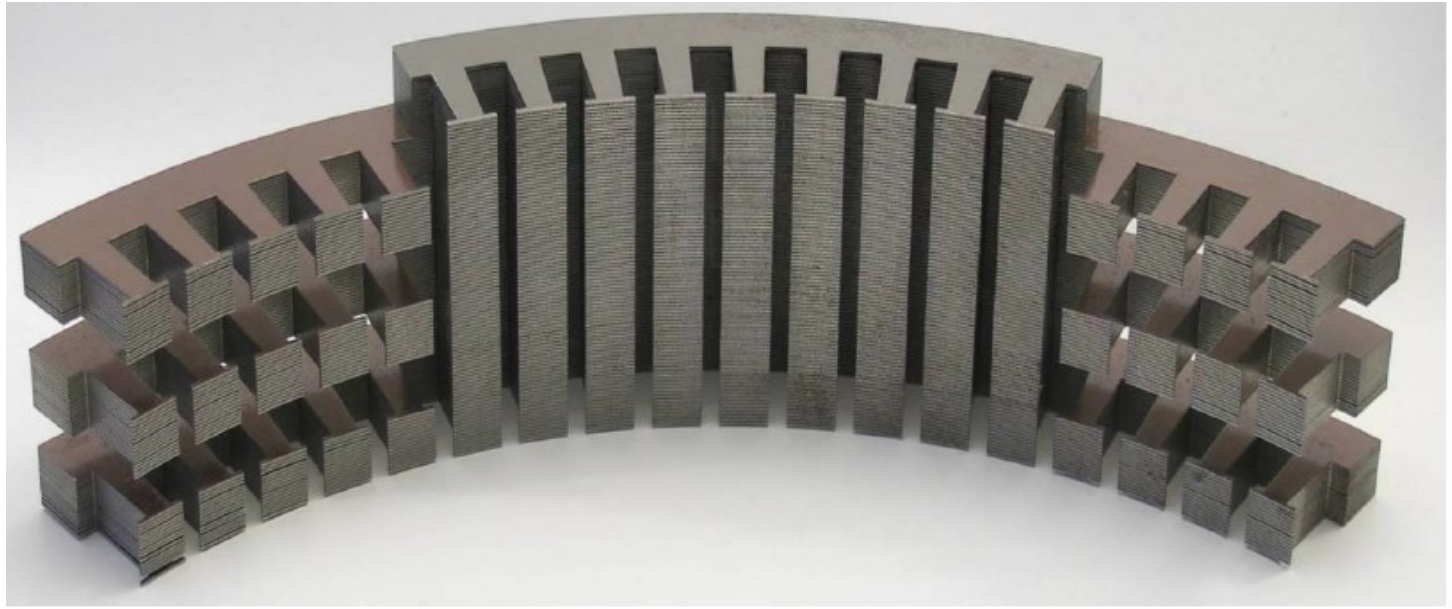
5. Welding and Segment

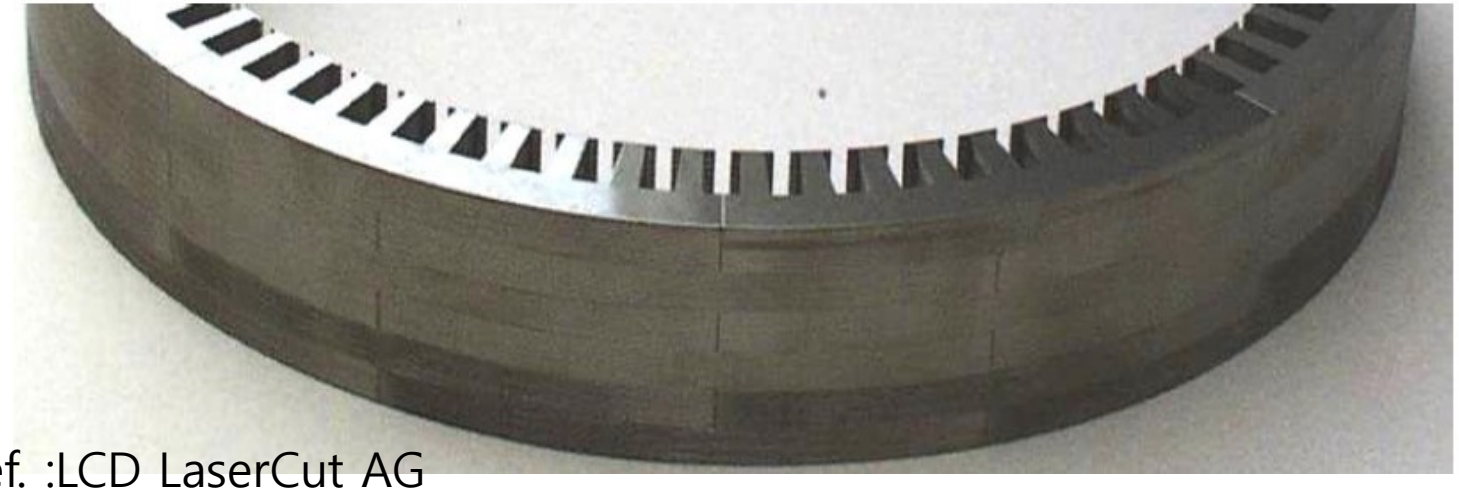




Ref. :LCD LaserCut AG

5. Welding and Segment

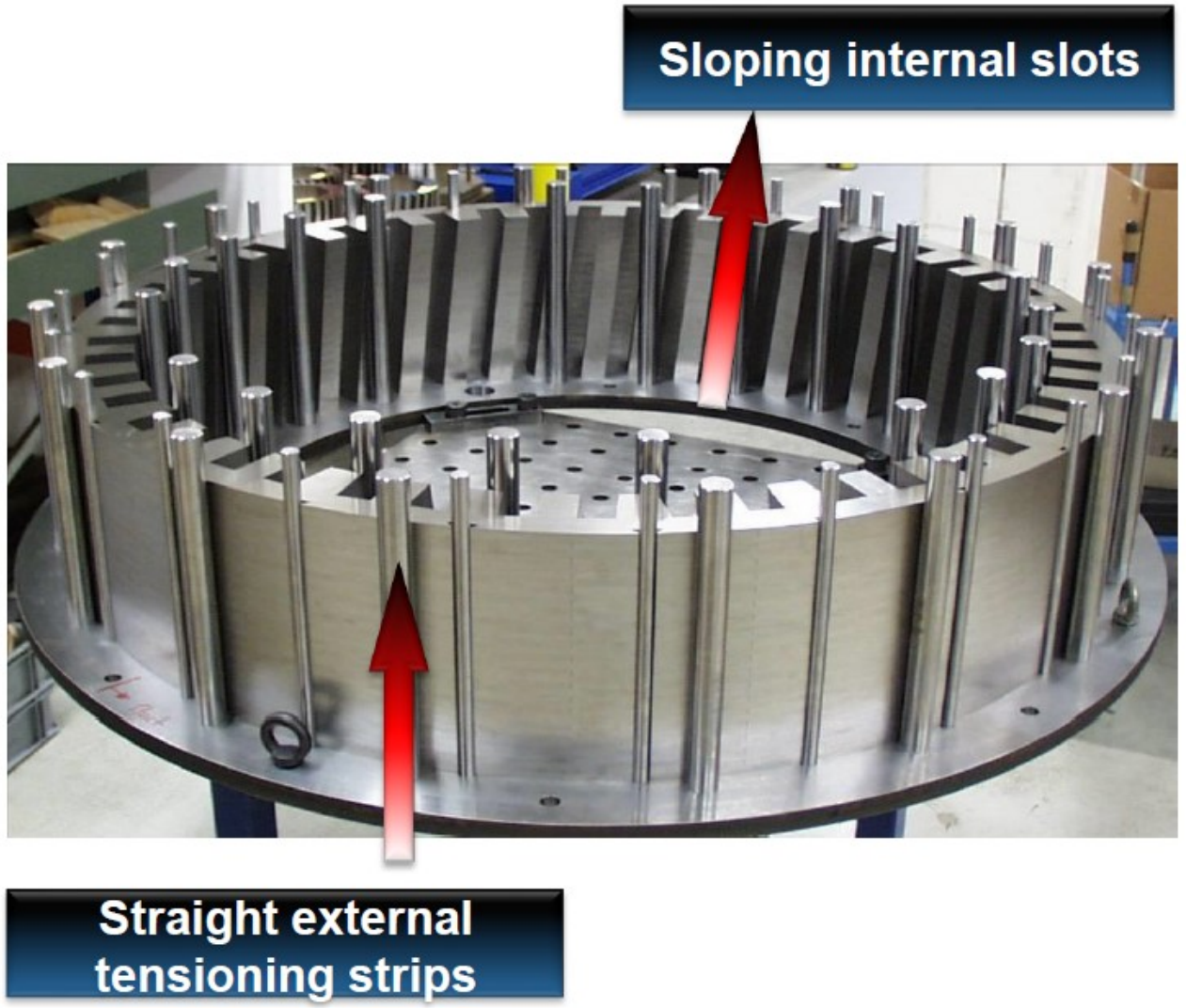




Ref. :LCD LaserCut AG

6. 3D-Slice

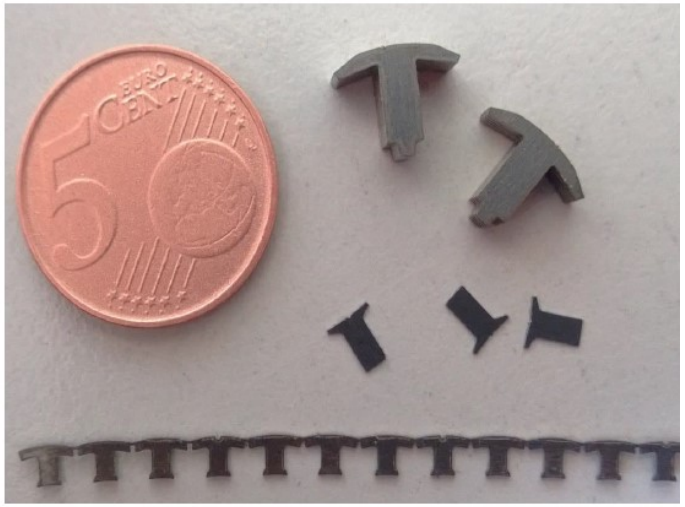
Value Added Mechatronics

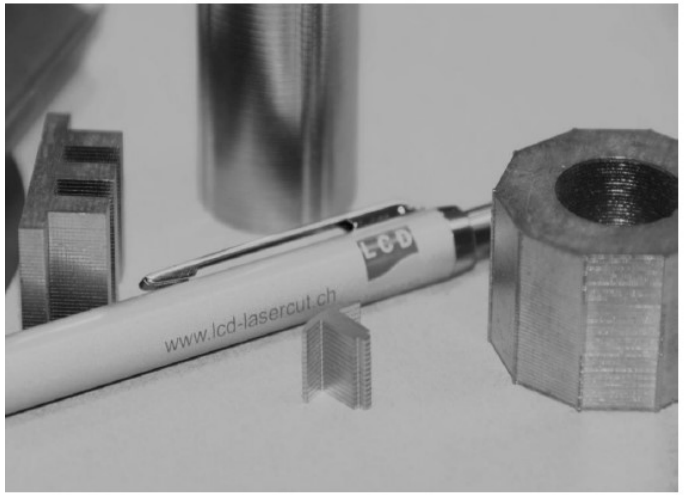


Ref. :LCD LaserCut AG

7. From Small to Large

Value Added Mechatronics





Ref. :LCD LaserCut AG