

Fixing solution for sandwich & honeycomb panel

ENGINEERING FASTENERS •••

INSERTS / THREAD FORMING SCREWS / SHEET METAL FASTENERS Catalog Products / Custom Parts













SECAMnida®

Optimized Fixation for sandwich & honeycomb panel

Nowadays, the transportation industry is facing the lightening challenge which is being intensified by a context of reduction of the energy consumption. Thus, new materials have appeared, mainly in the field of composites. However, the assembly technologies of these materials, and in particular for composites called «sandwich panels» have not significantly evolved since their appearance in the 60s and 70s.



Fixing solutions using potted inserts are still widely used in sandwich panel structures.

The actual installation proces requires many manual operations as well as an immobilization of nearly 24 hours for curing time. When it comes to fastening solutions, sources of productivity growth are the subject of intense researches.

New assembly technologies can greatly help reduce production costs. This is why it is essential to rethink some manufacturing processes.

SECAMnida® fixing solution principles

- A crimping process to maintain the insert on the upper skin
- Injection of two-components potting compound
- A visual inspection of the filling via the second vent hole. No additional finishing operations.

Objectives:



Design

Simplified structures design No extra reinforcement



Equivalent or higher mechanical strength in regards to standard





Light

Lighten metal inserts
Overall weight reduction

Fast

Installation is 4 time quicker and requires 50% less steps compared to conventional methods





Costs Killer

Decrease of production downtimes Strong overall productivity gain Non-quality strongly reduced

Simple

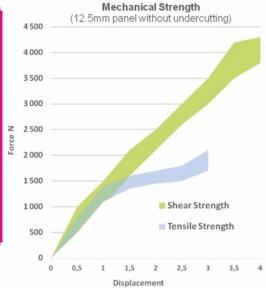
Immediate handling after crimping No needs for finishing operations



Objective: reduce the number of steps, the time and downtime required, insert installation to simplify the automation of insert installation

Main Characteristics

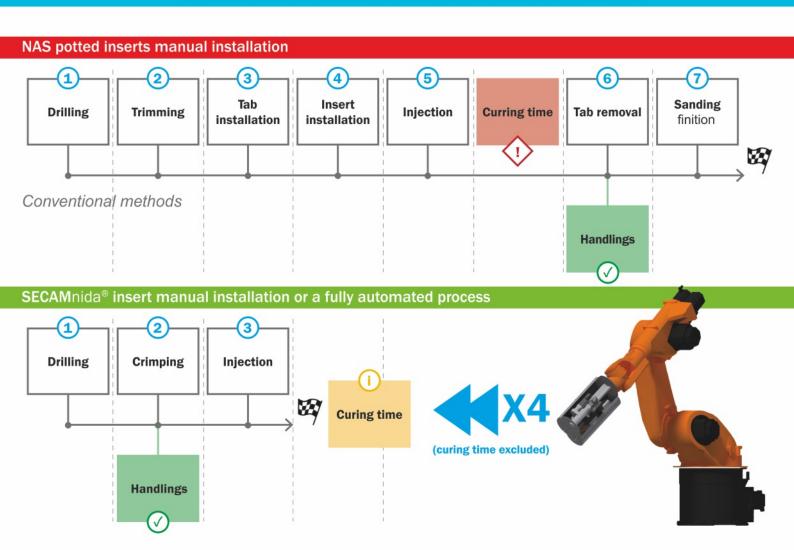
	Current situation by industries (Insert Potted)				4 500 -	Mech (12.5mm par	nanical Str nel without
	Aeronautics	Aerospace	Railway	NidAero®	4 000 -		
Number of steps	6-7 steps	7-8 steps	6-7 steps	3-4 steps	3 500 -		
Time of installation	~ 2-3 min	~ 15-25 min	~ 2 min	30 sec to 1 min	3 000 - 2 2 500 -		
Work-in-progress (immobilisation on production line)	High			Low - Immediate handling allowed	2 2 000 -		
Automation	Hard			Yes	1500 - 1000 -		<u> </u>
Finishing operations	Yes			No	500 -		=1
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A dedicated Fully Automated Process

Current installation methods require the gripping of several mechanical, electrical or pneumatic tools.

Objective: Provide to the market a robotized process for the preparation and the installation of inserts using SECAMnida® solution.







GEBE2 - Robotized solutions for industry

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