



**Stamping Technology for Automotive Manufacturing Processing of Composites**

# STAMP Composites

**Industrial R&D Group**

STAMP Composites is a National Research Council Canada (NRC) industrial R&D group created to develop, demonstrate and deploy thermoplastic composite technology for the high speed, cost effective manufacturing of light weight automotive parts. STAMP Composites brings together OEMs, parts manufacturers, materials suppliers and other companies across the supply chain and gives them access to NRC's experts and leading edge facilities.

**Thermoplastic composite stamping solutions for the transportation industry**

High performance composites are emerging as one of the leading technologies for reducing the weight and increasing the performance of vehicle parts. By joining STAMP

Composites, your company can gain access to these technologies quickly, at low risk and low cost.

NRC is bringing together leaders in the automotive sector to solve industry challenges in the manufacturing and stamping of thermoplastic composites. Member companies advise and partner on technology development and receive early access to the R&D results, giving them a competitive edge in process and product development.

**Why are automakers using thermoplastic composites?**

- > Reduced weight
- > Enhanced durability
- > Improved processability
- > Complete recyclability

**How can STAMP Composites help your company?**

- > Develop better knowledge of new technologies
- > Identify the pros and cons of emerging technologies in the context of manufacturing production
- > Compare these technologies based on real-life applications



### Why join STAMP Composites:

- › Gain access to unique technologies and confidential R&D results
- › Be a part of cutting-edge R&D projects at an affordable cost
- › Make use of skills and expertise that align with your priorities
- › Minimize and share the risks associated with new technology development
- › Expand your technical capabilities

### How does STAMP Composites work?

As a member, you help set the goals of STAMP's technology development projects. NRC experts, in collaboration with industry partners, develop technologies in accordance with these set priorities.

The results are shared with members on a continuous basis through regular group meetings.

### Proposed STAMP Composites programs:

- › Process mapping and optimization
- › Process numerical simulation
- › Fabrication of technology demonstrators
- › Characterization of deformation mechanisms
- › Joining and assembly of composites with similar and non-similar materials

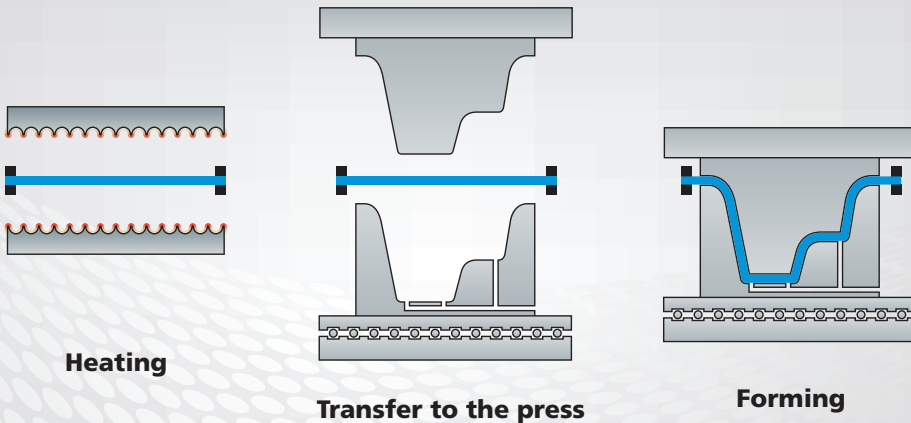
### What is stamping?

Thermoplastic composite forming stamping is similar to the metal stamping process. The material (organo-sheet) is first heated above the softening temperature of the polymer matrix in an external oven. The material is then quickly transferred to a press where it is stamped to the desired shape.

### Stamping benefits:

The key advantage of composite stamping is the potential to manufacture light weight composite parts in short cycle times, at high production volumes. NRC develops, demonstrates and deploys stamping technology for:

- › Weight reduction
- › Competitive manufacturing costs
- › High-volume market segment products



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