THE COMPOSITE SCALE-UP READINESS CHECKLIST

COMPOSITE INTEGRATION

Is Your Composite Process Ready for Production?

A successful component proves that your process can work. But how confident are you that it can deliver the same result repeatedly under real production conditions?

Use these 12 questions to identify where greater understanding, measurement or control may be needed before increasing production.

Process Understanding

1. Have you identified the process variables that directly influence part quality?
☐ Yes ☐ Not Yet

2. Do you know the acceptable operating window for your critical process parameters?
☐ Yes ☐ Not Yet

Process Visibility

3. Can you measure what is actually happening during the manufacturing process?
☐ Yes ☐ Not Yet

4. Can you explain why one manufacturing cycle behaves differently from another?
☐ Yes ☐ Not Yet

Process Control

5. Are critical parameters controlled rather than dependent on operator judgement?
☐ Yes ☐ Not Yet

6. Can different trained operators achieve comparable results?
☐ Yes ☐ Not Yet

Repeatability

7. Has the process been repeated successfully across multiple manufacturing cycles?
☐ Yes ☐ Not Yet

8. Have you assessed how normal material and environmental variation affects the process?
☐ Yes ☐ Not Yet

Production Readiness

9. Has the process been validated under conditions representative of the intended production environment?
☐ Yes ☐ Not Yet

10. Has the process been demonstrated at the intended component size or a representative scale?
☐ Yes ☐ Not Yet

Manufacturing Capability

11. Can your equipment support the required resin volume, flow rate and production rate while maintaining process control?
☐ Yes ☐ Not Yet

12. Can production increase without increasing operator dependency or compromising process control and repeatability?
☐ Yes ☐ Not Yet

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What Did Your Answers reveal?

Mostly Yes?
Your process may have many of the foundations required for repeatable production. The next step is to validate whether that understanding and control can be maintained as manufacturing requirements, volumes or operating conditions change.

Several Not Yet?
Your answers may have highlighted areas where greater process understanding, measurement or control is needed. Identifying these areas before increasing production gives you the opportunity to investigate them before they become production constraints.

Not Sure?
If some questions are difficult to answer confidently, that can be useful in itself. It may indicate assumptions or process variables that haven't yet been fully understood, measured or validated.

A successful part demonstrates that the process can work. Production readiness comes from understanding why it worked - and knowing you can make it happen again.

What Should You Do Next?

Your answers should give you a clearer indication of where further investigation may be needed. Whether that's understanding process variation, improving measurement and control, validating repeatability or assessing manufacturing capability, the next step is to understand what is happening within the process and what needs to change.

Want to Explore These Questions Further?

Join Our Webinar, hosted by CompositesWorld, 04 November 26

Your Composite Process Worked in R&D. But Will It Survive the Factory Floor?

We'll explore where variability enters liquid composite moulding processes, which parameters really matter, what should be measured and controlled, and what it takes to move towards robust, repeatable production.

Register Now

Has the Checklist Highlighted a Specific Challenge?

If your answers have identified an area you'd like to investigate further, our engineering team can work with you to understand the process, identify what may be limiting performance and determine the right route forward.

Helping You Make **World-Class Composites.**

Speak with our Technical Team