Proper tooling

Proper Tooling developed a two-shot spin form composite sheet product to injection mold a 'Lightweight Center Console Armrest' for NPE 2018. The show is hosted in Orlando and includes over 2,000 exhibits with over 75,000 people in attendance. Proper Tooling collaborated with leaders in each respective industry to engineer a product that will resemble an OEM armrest. Technology partners and marketable innovations on this project are listed below.

Technology Partners:

1. Krauss Maffei – GXW 450 Spin Form IMM Press and Exhibit
2. Proper Tooling – Product Design, Development, and Injection Mold Manufacturing
3. HRS – Flex Flow Servo Valve Gates
4. Lanxess – Tepex Dynalite 47% Roving Glass Composite Sheet
5. US Farathane – Patented Snap Design / Product Testing
6. Tenibac Graphion – Valvet Etch Texturing and Product Artwork (OEM Approved for Application)
7. Advanced Composites – Polypropylene Base Resin and Development (OEM Approved for Application)
8. Audia Elastomers – TPE Overmold Resin and Development (OEM Approved for Application)
9. UCC – Colorant Development (OEM Approved for Application)
10. ToolStats – Product, Tooling, and Asset Management Platform (Consumer Access to Product Life Cycle)

Marketable Innovations:

1. 2K spin form technology combining multiple components of an assembly to (1) dedicated press and reducing the overall number of components.
2. Dynamic electronic sequential valve gates for profiling the pins during the injection phase.
3. Composite sheet material for 200% improvement in strength, 15% reduction in overall weight, and 18% reduction in cost over the previous OEM version.
4. Simulated stitching to enhance product quality at a more economical cost than hand wrapping parts. This is accomplished thru laser etching and pad printing.
5. High flow tactile soft shot TPV resin with improved scratch resistance and simulated leather fee.
6. Unique snap feature design for pre-assembly of components. These features are being formed in the injection mold without the need for tooling mechanisms.
7. Conformal cooling inserts for improved cycle time.

Access to videos from the exhibit are located in the directory below.

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