

PPAP AUTOMOTIVE | FOCUSED ON BUILDING IN-HOUSE TECHNICAL CAPABILITIES

Catering to the needs of the automotive industry since 1985, Noida-based PPAP Automotive Limited has carved its niche in supplying body sealing, interior and exterior parts. Auto Tech Review caught up with **Abhishek Jain, CEO & MD, PPAP Automotive Ltd** to know more about the advancements in body sealing, interior and exterior parts among others.

PPAP Automotive has largely been focussing on manufacturing Polyvinyl Chloride (PVC) sealing systems unlike its competitors, who manufacture rubber-based automotive sealing systems. The company manufactures outer waist seals, inner waist seals, moulding roof, trim door openings & moulding windshields from PVC. PVC was widely used for automotive sealing products in India for which raw material was sourced from Japan & Thailand – it is comparatively cheap, easy to process, highly flexible, water retardant, highly chemical-resistant and design-versatile. Jain said the usage of PVC that had gained large-scale acceptance over the years is gradually reducing owing to halogen content, poor recyclability and high volatile organic compounds (VOC) content, prompting customers to look at thermoplastic elastomers as an option.

The PPAP Automotive MD said thermoplastic elastomers provide a blend of polypropylene (PP) & ethylene propylene diene monomer (EPDM) that carries good aesthetics of a PP compound, good mouldability and has the characteristics of a rubber compound like compression set, formability and sealing qualities.

ACCEPTANCE OF THERMOPLASTICS ELASTOMERS

Jain said there were huge expectations that the Indian automotive industry would shift to thermoplastics elastomers from the prevailing PVC sealing systems, but it did not happen that way as thermoplastic elastomers was considered an expensive compound as compared to PVC. The cost difference at the component level was around 10 %, something customers were reluctant to pay for, he noted.

The PPAP Automotive top official said the arrival of thermoplastic elastomers in the market generated buzz because it is lighter in weight, chemically resistant, have very low water transmission and enhanced long-term performance,

is environment-friendly and fully recyclable. The polymer has high degree of stability and a very low shrinkage, said Jain. Thermoplastic elastomers can be compounded to get high hardness and increased mechanical strength. Such materials lead to a reduction in the part cost & part weight as well as ensure easy processability.

Jain said thermoplastic elastomers eliminate the need for carriers like steel, aluminium, etc, which reduces the weight unlike a PVC system, where such carriers are required. However, PVC & thermoplastic elastomers cannot be blended together due to their different chemical structure. The individual use of both the material for different parts is carried out as per the customer requirement, Jain noted.

SHIFT TO TPV GLASS RUN CHANNELS

The automotive industry has moved away from rubber or EPDM-based glass run channels towards Thermoplastic Vulcanisate (TPV) glass run channels. TPV glass run channels are much lighter than a typical rubber run channel, which reduces weight by around 15 %. Jain said the positive thing about TPV is that one can play around with its density & design and is much easier to make, and ensures better production efficiency. Rubber can be a difficult compound to handle, because of factors beyond one's control. Due to environment or process conditions, a product can turn out to be a different product. TPV is made completely in a factory and is much easier to handle, Jain explains.

Lightweighting of products has been a focus area for automotive component manufacturers and PPAP Automotive is striving for the same with its sealing and injection products. The company had earlier used four materials for ex-



trusion and is now striving to do it in three materials combining the properties of two materials into one material. Jain said such an approach helped it reduce the cross section from 10 mm to 8 mm, while maintaining the same product performance, and also reduce the wall thickness from 2 mm to 1.7 or 1.8 mm.

On the R&D front, PPAP Automotive is focussing on adopting a solution-based approach and offers an integrated print-to-build model. The company has augmented its capabilities and now offers product design, tool design, product & materials validation and mass production in-house. PPAP Automotive is consistently focussing on localising its products. Jain said the import content of its raw materials was around 60 % five years back but it has now whittled down to 27 %.

ROUND-UP

PPAP Automotive has derived significant technological expertise from its long-drawn technology partnerships with Japanese firms – Tokai Kogyo (it later formed a JV firm with them in 2014) and Nissen Chemitec Corporation. The company's tie-up with Tokai Kogyo (from 1989 onwards) is for its automotive exterior and sealing products, while its partnership with Nissen Chemitec Corporation (from 2007 onwards) is for its automotive injection moulding interior products. PPAP Automotive is keen to expand its customer base and is now looking beyond OEMs.

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