



Asahi**KASEI**

## Asahi Kasei Corporation Glass Fiber Reinforced Polyamide 66 Pedal Bracket

For this module, unnecessary parts in the sheet metal design were removed. Additionally the fixed part with the bolt and the lever connecting part were moved closer to each other. Topology optimization technology and plastics design technology were used in cohort for the project. It is necessary to consider that the design for plastics is made by injection molding. Considering the draw direction of the mold, warpage, weldline position. Due to plastics products having shorter lifespan than metal products, fatigue lifespan was also considered. The initial model was fixed at six points. Considering the direction of the load, the proposed design at only two points. As a result, we could deleted unnecessary parts in sheet metal design.

Category:  
**Enabling  
Technology**

Application:  
**2015 Mazda MX-5**

Weight Savings:  
**83%**

Weight reduction from  
the baseline design

Methodology:  
**Design Optimization**

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