COMPANY

Minda Industries Limited

http://www.mindagroup.com/

Customer Success Story
India

SOFTWARE

Autodesk® Simulation Moldflow®

Built to Design

Minda Industries Limited uses Autodesk Simulation Moldflow to ensure an aesthetic switch without compromising on product strength

"It is a challenging task to overcome the aesthetic defects of small and complicated parts of 2 wheeler switches due to the limited scope for modification"

- Shrihari B. Rasal
Asst. Manager, Tool Design (Moldflow)

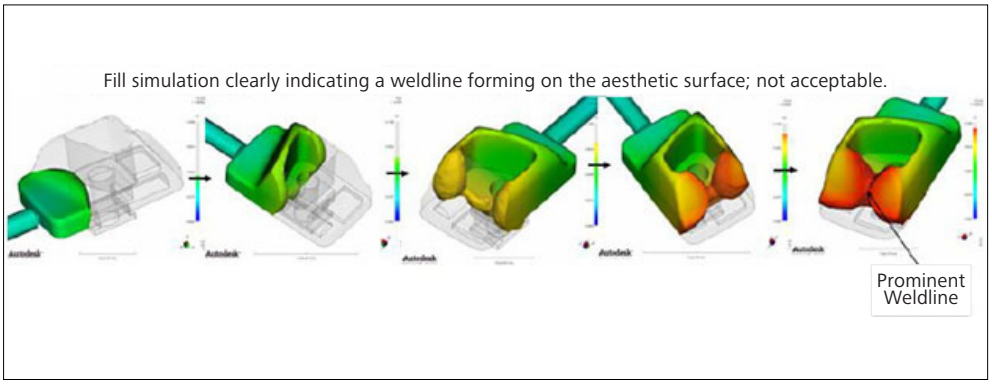


Image courtesy of Minda Industries Limited

Minda Industries Limited - Switch Division is the part of 'UNO Minda - NK Minda Group' Founded in 1958 by Late Sh. S. L. Mindato serve Automotive industry with innovative products, designed and manufactured for its efficiency, reliability, quality and safety. Started in 1960, Switch Division is the largest manufacturer of two wheeler switches in the world. The division specializes in two and three wheeler Switches and has a major share of business in all Indian 2/3 wheeler OEMs.

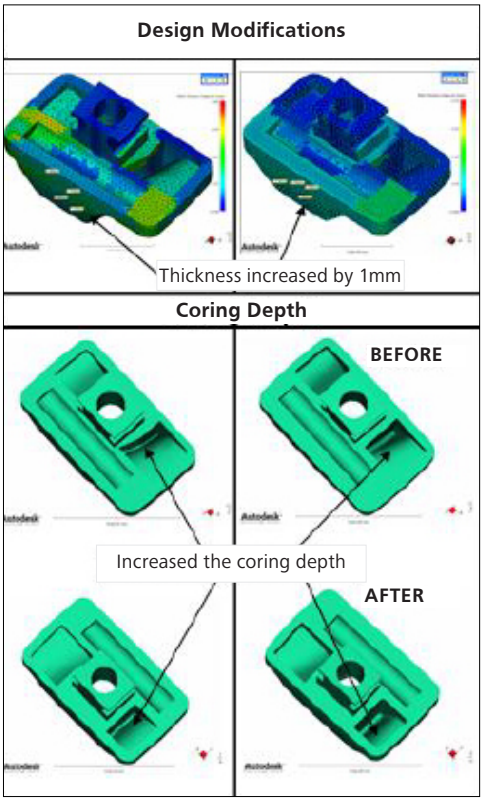
With approximately 3000 employees, the Switch Division operates through nine plants in India and two overseas plants in Indonesia and Vietnam. The manufacturing facilities are located across the country at Manesar, Pune, Aurangabad and Pantnagar. The division has a state-of-art of R&D center with 37 patents and 60 design registrations in its name. The Switch Division produces the widest range of switches, like handle bar, panel, start, modular and rear brake switches.

"Ours is the first and the only company to receive TPM award in India, with core competency in manufacturing and developing a wide range of high quality automotive switches serving end markets in India, US, Spain, Malaysia, Thailand and Indonesia " said Mr. Shrihari B. Rasal Asst. Manager – Tool Design (Autodesk Simulation Moldflow).

Challenges:
In order to remain competitive, auto manufacturers are trying to differentiate themselves from the competition by enhancing their vehicle's appearance, even a small accessory like a switch is among the top priorities to improve the aesthetic value of the vehicle. While working for one of the leading two wheeler manufacturer in India, Minda Switch division faced a challenging issue of occurrence of weld-line at the center of the switch that does not meet the quality and aesthetic requirements specified by the customer.

"It is challenging task to overcome the aesthetic defect of small and complicated parts of 2 wheeler switches due to the limited scope for modification"explains Mr. Shrihari B. Rasal

Key Benefits:
The speed and power of Autodesk® Simulation Moldflow® give better results. Mr. Shrihari B.



AUTODESK.

MOLDFLOW FILL SIMULATION SHOWING ELIMATION OF THE WELDLINE

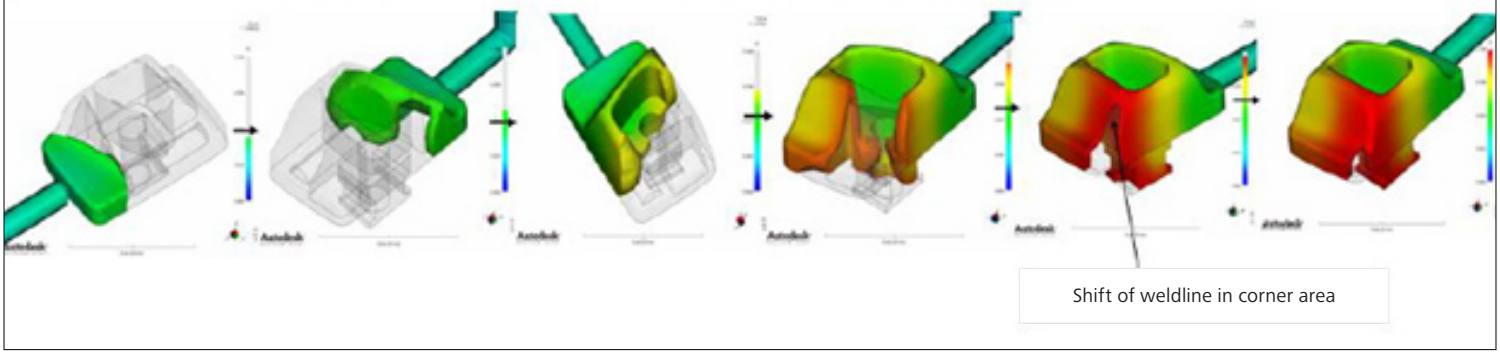


Image courtesy of Minda Industries Limited

Rasal said. "Using Autodesk Simulation Moldflow we get an accurate representation rather than an approximation.It is easy to verifyproblems and fix them in early development stage so that we get the right components in trial 1"

Ever since 2008, Minda Switch division has successfully used Autodesk Simulation Moldflow software to develop more than 200 hundred products, and the results have shown that Autodesk Simulation Moldflow helps not merely to reduce the design and development cost but also improved the product quality and time required.

The Solution:
There is limited scope for modification of the Knob Blinker (Switch Component) because of its small size and complicated shape. In this case of Switch Component, which is repeatedlyunder load the weld line is the factor that influences the as theistic value and part strength. So it was a challenging task to improve atheistic of the component by shifting the centerweld line to the corner without weakening the product strength. With assistance of Autodesk Simulation Moldflow, Minda professionals were able to shift the weld lines to the corner by design modification in the component i.e. increasing the right side wall thickness by 1mm and increasing coring depth so that the material flow on the right side is slowed down and meets left side flow at an edge.

Results:
The Autodesk Simulation Moldflow results help to identify the main problem areas before the part is manufactured that are particularly difficult to predict with traditional methods. "Autodesk Simulation Moldflow is very versatile and complete injection molding simulation tool, which helped us to achieve zero rejection due to weld line and serve the automotive industry with better products" concludes Mr. Shrihari B. Rasal

> "Using Autodesk Simulation Moldflow we get an accurate representation rather than an approximation. It is easy to verify problems and fix them in early development stage so that we get the right components in trial 1"
>
> **-Shrihari B. Rasal**
> Asst. Manager, Tool Design (Moldflow)