

**STRENGTH + LIGHTWEIGHTING**

# LUWA AIR ENGINEERING

## 1600MM AXIAL FAN BLADE

### AVIENT SOLUTION

Complēt™ Fiber Long Reinforced Thermoplastic

### WHY AVIENT?

- Re-designed the blade, utilizing 3D modelling and mold flow analysis services from Avient Design
- Simulated mechanical load to determine which new design would provide optimal performance
- Improved strength utilizing carbon fiber and enabled an injection moldable part, streamlining production
- Reduced blade thickness to 35% of the original and blade weight from 3.5kg to 800gms
- Improved overall efficiency of fan with thinner, light weight blade that cuts through the air

### LEARN MORE

### KEY REQUIREMENTS

- Replace aluminium alloy
- Reduce thickness and weight of fan blade
- Withstand 920 Pa of static pressure, high relative humidity (90-95%), and max temperature of 40°C