

Brake Drum

Cast Steel, Green Sand Casting

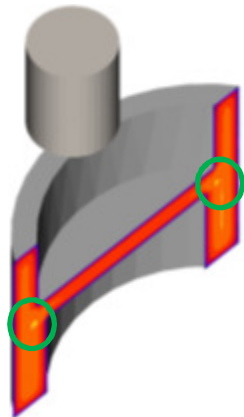
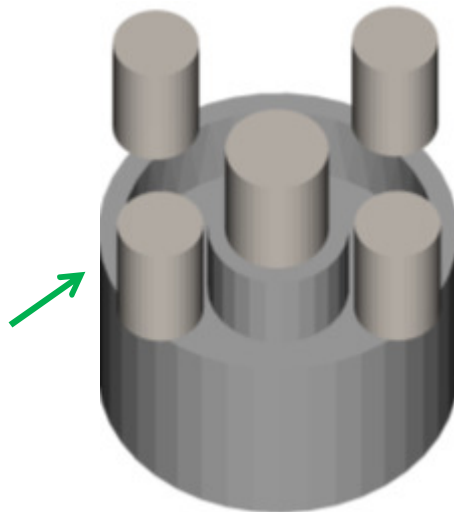
A cast steel Brake drum casting of overall size 530 mm x 530 mm x 280 mm weighing 200 kg was in production using resin-bonded sand casting. Shrinkage defects were observed along the rim of the brake drum.



Thickness analysis of the part shows thick region all around, corresponding to an inscribed sphere diameter of 50 mm.



The current methoding of the casting included 5 top cylindrical feeders of 130 mm diameter and 150 mm height.



Solidification map of the casting clearly indicates isolated hot spot at the L-junction along the circumference of the casting leading to shrinkage cavity matching the defect observed in the original casting.



The methods layout was redesigned with side feeders of diameter 130 mm and height 150 mm along the side face. Gates were connected to the feeders to increase the feeding effect and thereby leading to a defect free casting.

