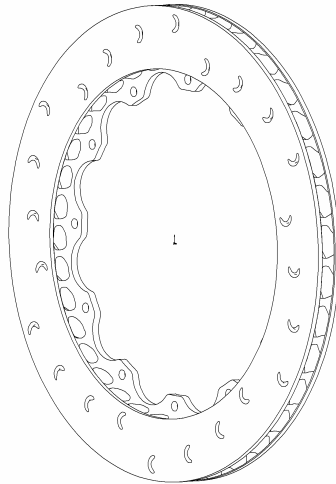


Alcon crescent groove discs



Grooves in the surface of a brake disc for high performance vehicles perform three basic functions:

- Increases initial friction between the disc and pads, producing more 'bite'
- Continuously refreshes the brake pad surface by removing debris from the pad
- Prevents build up of gas from the phenolics within the pads

Traditionally, arrays of long, straight or curved grooves are staggered around the disc surface. Heat generated during braking leads to thermal distortion of the disc due to the discontinuous friction rubbing surface produced by the grooves, causing reduced pad contact and in some cases brake judder. As a result of dividing the grooves into short segments, the continuous disc surface area is maintained, helping to reduce thermal distortion and hence brake judder.

The curved form of each groove produces a longer edge than would otherwise be achieved if the grooves were straight. Also the grooves overlap radially, which prevents grooving of the friction material.

When compared with a disc with plain faces, a grooved disc will produce greater pad wear and will also be noisier.

When compared with a cross-drilled disc, initial bite will be similar without the thermal stress associated with a drilled disc. Noise will be of a similar level.