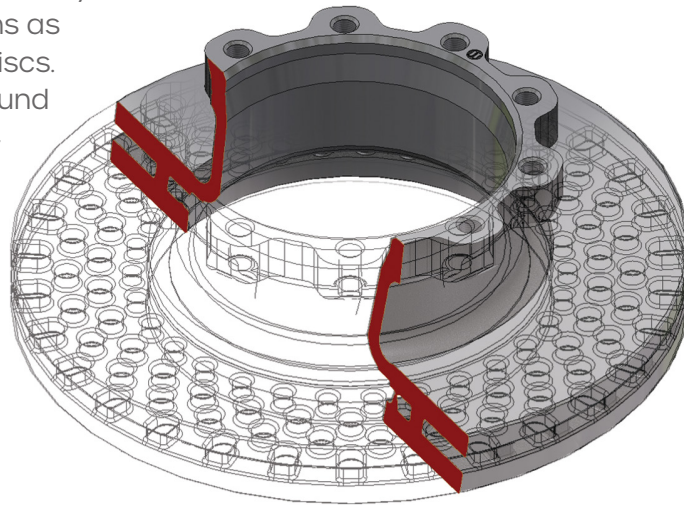


# Solid vs. Vented Brake Discs



Off-road and quarry applications where factors such as mud, for example, can plug brake disc vents and reduce their effectiveness, tend to incorporate solid discs.

Vented discs, on the other hand, are generally the superior choice for road applications as they cool up to 40% faster than solid discs. This means that other components around the brake system such as rubber seals, bearings, and tyres, spend less time exposed to extremely high temperatures, facilitating longevity of the parts and safety.



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## Key Facts:

- **Vented discs are a superior choice favoured by OE manufacturers**
- **Vented discs cool up to 40% faster than solid discs**
- **Vented discs weigh up to 14kg less per axel than the equivalent solid discs, thereby increasing payload and reducing fuel consumption**
- **On average, solid discs cost 30% more than the vented equivalents**
- **The wear rates between solid and vented discs are negligible**
- **All Juratek vented brake discs are compliant with UNECE R90:02 standards for thermal fatigue**

Vented discs weigh 7kg less than the equivalent solid discs, amounting to 14kg per axle. Not only does the extra weight reduce payload carrying capacity, it also increases fuel consumption and due to the extra mass, solid discs tend to be in excessive of 30% more expensive than the vented equivalents.

Because of their increased mass, solid discs also have a much greater heat sink. This means that on a single stop, the temperature increase during braking will be less than with a vented disc. While some suppliers claim that solid discs do not increase brake fade, this is unlikely to be the case if repeated brake stops are conducted. As mentioned previously, vented discs are designed to cool significantly faster than solid discs, therefore over a series of repeated stops, a vented disc would be less likely to suffer from brake fade.

Solid discs may be less prone to heat distortion owing to their solid mass. However, this is not generally an issue for properly designed vented discs, where hot-spotting, grazing, and cracking is often more the result of the composition of the cast iron, the choice of friction material used, and how it interacts with the disc to ensure uniform contact with the brake pad.

Some suppliers claim the use of solid discs helps extend disc and pad life, however, a test has shown that the differences in disc wear (0.004mm) and pad wear (0.046m) are not significant.