

Functional and Visual Check

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1 Wear Check of Pads and Discs

 For optimum safety, stay within the Pad and Disc Wear Limits.

Pads

The thickness of the Pads must be checked regularly dependent on the usage of the vehicle (at least every three months even if a Wear Indicator is fitted). The Pads should be checked corresponding to any legal requirements that may apply.

If friction material is less than 2 mm at its thinnest point (see E, Sketch 3), the Pads must be replaced.

Minor damage at the edges is permitted (see arrow, Sketch 1).

Major damage on the surface of the Pad is not permitted (see arrow, Sketch 2).

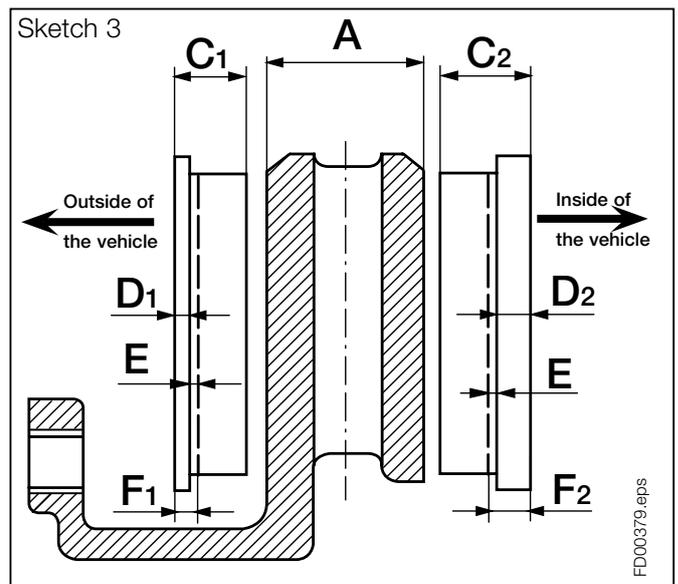
Discs

Measure thickness at thinnest point. Avoid measuring near the edge of the disc as a burr may be present.

- A = Disc thickness
new condition = 34 mm
worn condition = 28 mm (the disc must be replaced).
- C₁ = Overall thickness of Pad (new condition) 27 mm
C₂ = Overall thickness of Pad (new condition) 34 mm
D₁ = Backplate 8 mm
D₂ = Backplate 15 mm
E = Minimum thickness of friction material 2 mm
F₁ = Minimum allowed thickness in worn condition for backplate and friction material 10 mm (replacement of Pads necessary).
F₂ = Minimum allowed thickness in worn condition for backplate and friction material 17 mm (replacement of Pads necessary).

If the disc dimension $A \leq 30$ mm, it is recommended that the Disc should be renewed when the Pads are next changed.

If the disc thickness is less than 28 mm, the disc **must** be replaced.



 If these recommendations are ignored, there is a danger of brake failure and therefore increased risk of an accident.

Check Disc at each change of Pads for grooves and cracks.

The diagram shows possible surface conditions.

A₁ = Small cracks spread over the surface **are allowed**.

B₁ = Cracks less than 1.5 mm deep or wide, running in a radial direction **are allowed**

C₁ = Unevenness of the disc surface less than 1.5 mm deep **are allowed**

D₁ = Cracks going through to the cooling duct or onto the inner or to the outer friction ring **are not allowed**.
The Disc **MUST BE REPLACED**.

a = Width of the friction surface

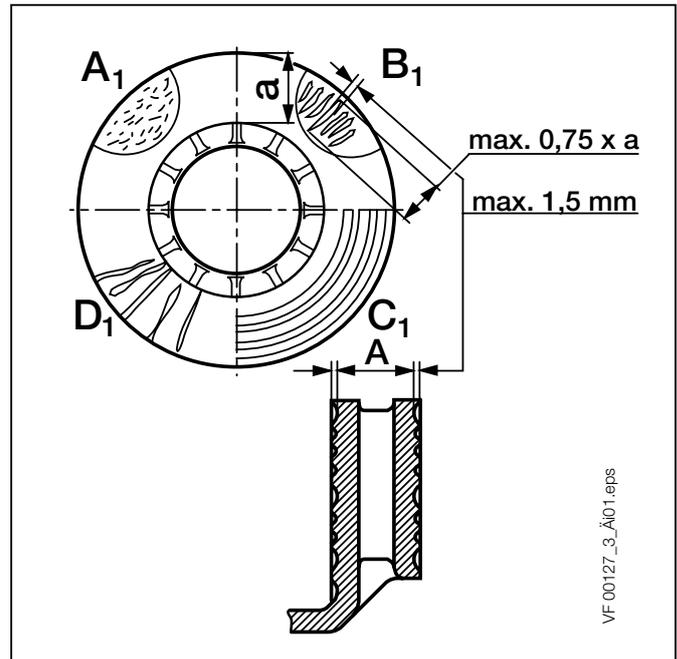
Note:

In case of surface conditions **A₁**, **B₁** or **C₁**, the Disc can continue to be used until the minimum thickness of 28 mm is reached.

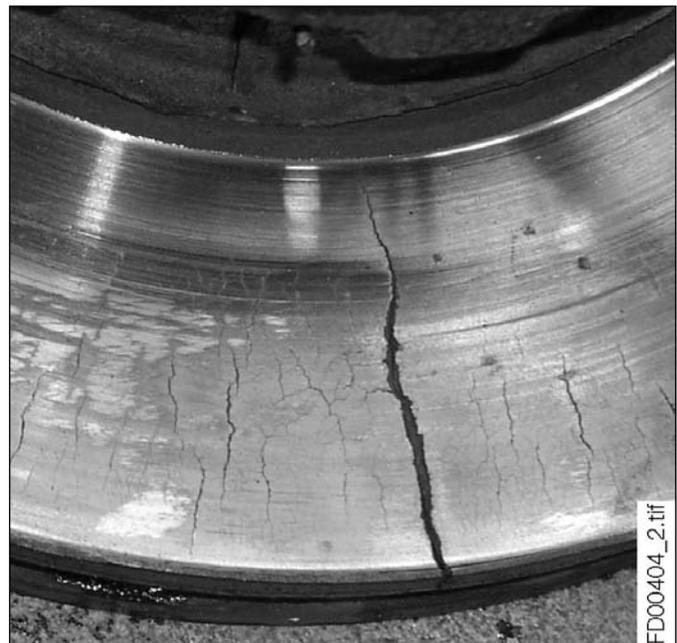
Knorr-Bremse Discs are normally service-free and grinding when changing Pads is not necessary. However, grinding could be useful, e.g. to increase the load-bearing surface of the Pads if severe grooving on the entire friction surface has occurred. To meet safety requirements, the minimum thickness after regrinding must be greater than 30 mm.

In addition, the recommendations of the Vehicle Manufacturer concerning the machining of the disc **MUST** be followed.

The adjacent picture shows some examples of cracks and grooves on a Disc.



VF 00127_3_A01.eps



FD00404_2.tif

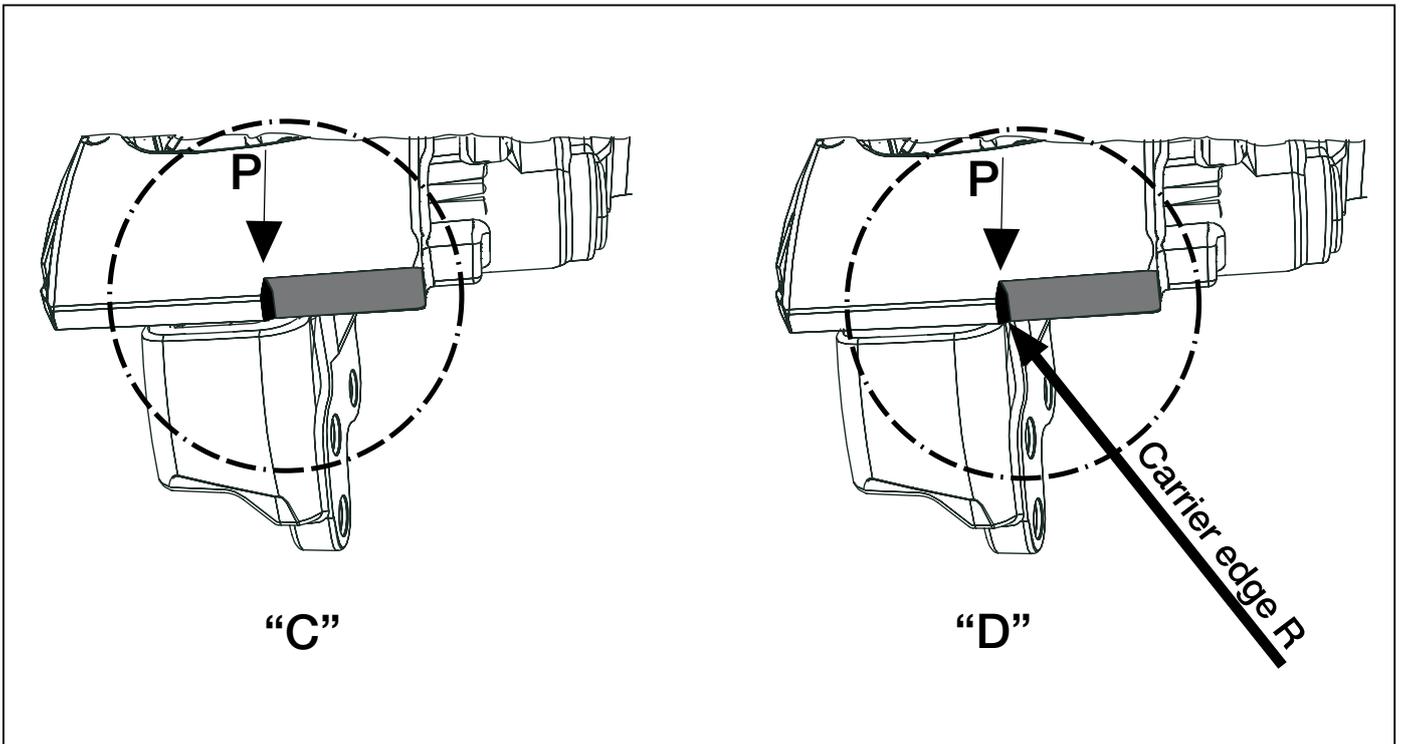


If these recommendations are ignored, there is a risk of accident. If the pads and/or the disc are worn down excessively, brake performance will be reduced and may be lost completely.

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Brake Wear Check using Caliper to Carrier position:

For all Disc Brakes which are equipped with a Caliper marking.



The condition of the Pads can be visually determined without removing the road wheel by viewing the position of the Caliper marking (P) against the Carrier edge (R).

If the condition "D" is reached the wheel must be removed so that the wear of the Pads and Disc can be checked.

If necessary change the Pads (see Section 6) and/or the Disc - see Vehicle Manufacturer's recommendations.

"C" = shown in new condition

"D" = Pads and Disc must be checked with road wheel removed