

## SAFETY NOTICE

### Replica brake discs for our Original INTEGRAL brake discs

For considerable time now on the independent parts market, “one-piece” brake discs to fit SAF axles (e.g. for SAF 4 079 0013 03 and SAF 4 079 0010 04) are being offered by various different companies and increasingly promoted in the media.

These are, like the two-piece original INTEGRAL products produced by us, marketed as compatible brake discs and can indeed, from a geometrical perspective, be fitted on SAF axles instead of our original INTEGRAL brake discs. As a customer, you can only see the technical differences between our two-piece original INTEGRAL brake discs and the “one-piece” replica brake discs being propagated on the market if you examine them very closely.

**The “one-piece” replica products do however differ significantly in technical terms from our original INTEGRAL brake discs.**

One substantial technical difference between these brake discs and our original INTEGRAL brake discs is that our original INTEGRAL brake discs consist of two pieces. All the other products consist of just one single piece. The “one-piece” design of these other products means that gray cast iron is used throughout for the whole brake disc. Our original INTEGRAL brake discs are made on the other hand from an adapter made of high-strength cast iron with spheroid graphite, and a friction ring made of gray cast iron. This friction ring is cast on to the high-strength adapter in a separate step in the production process.

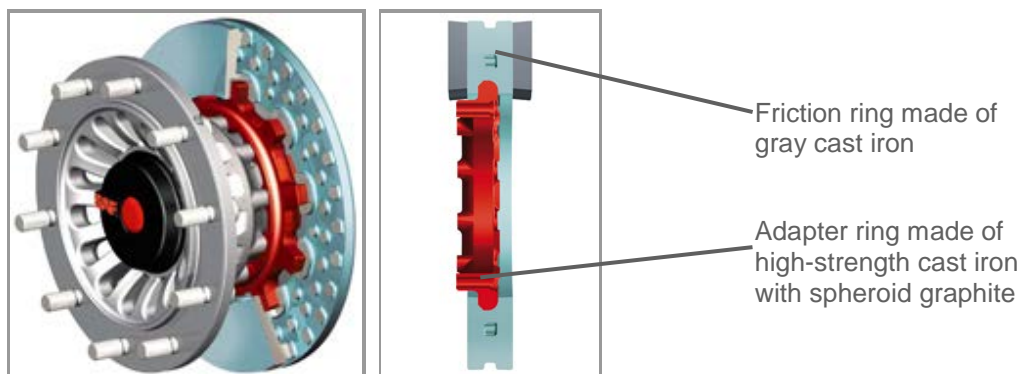


Illustration: patented SAF-HOLLAND INTEGRAL technology

One technical disadvantage of such a “one-piece” brake disc (in comparison with our original INTEGRAL brake discs) is that with the “one-piece” products, there is no insulation effect between the friction ring and the adapter. This results in increased heat transfer in comparison with the original INTEGRAL brake disc into the wheel hub and thus into the wheel bearing. **This can result in premature failure of the wheel bearing with all its consequences**, including the possibility of the wheel coming off.

Another technical difference between our original INTEGRAL brake discs and the brake discs of other manufacturers is that with some of the “one-piece” brake discs, the through holes in the area of the adapter ring have had an opening “notch” added. (see the blue circle in the 1st picture)

This “notch” can have enormous influence on the fixing of the brake disc to the relevant wheel hub. As a result of the “notch” in the through holes, the screw heads of the double hexagon head bolts are not completely in contact with the adapter ring; instead, the contact is interrupted by the “notch”. This can cause considerable problems with regard to the tightening torque specified by SAF-HOLLAND for the double hexagon head bolts. Moreover, the thread of the bolts is no longer completely protected from dirt and damage or corrosion.

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There is a further difference in the type and place of mounting of the brake disc on the wheel hub. The disc is mounted using heat-resistant screws developed specially for this purpose. The through holes for these special screws are in the area of the high-strength adapter in the case of our original INTEGRAL brake discs. With the “one-piece” replica disc brakes, however - as there is no high-strength adapter - the through holes are in the softer gray cast iron material.

**These differences of the brake disc (“one-piece” design and “notch”) can cause stress cracks around the through holes because of differences in the material.**

SAF-HOLLAND commissioned an authorized inspection company/a company certified in accordance with the standards of the German (TÜV) association for technical inspection (HONEYWELL Bremsbelag GmbH) to carry out a standardized performance test in accordance with GLOBAL SPEC VC (planned ISO norm 15484) and a brake disc comparison test in accordance with ISO/DIS 26865 (Point 6.4) on a “notched” “one-piece” brake disc. **In the test, stress cracks did in fact appear in the area of the through holes (mounting).** Such stress cracks (compare attached pictures) can lead to the complete failure of the component and thus to the malfunctioning of the brakes.

Furthermore, in the above mentioned test carried out on such a “notched”, “one-piece” brake disc, the release torque and prevailing torque of the screws were also investigated. In this test, the original SAF double hexagon head screws were deliberately used. It emerged that **the prevailing torque of the double hexagon head screws was 30 % and the release torque was approx. 25 % below the SAF-HOLLAND values.** As described above, in the case of “one-piece” brake discs, the screws are not fitted in the area of the high-strength adapter, but in the softer gray cast iron material. And with some “one-piece” brake discs, their manufacturer has - as explained - added “notches” in the area of the through holes. In this case the test showed an in part inadmissible setting behavior in the screw connection. This setting behavior can lead in practice to a loss of pre-tensioning force, and thus to the loosening and in the worst case to the complete loss of the screws.

Based on the knowledge currently available, we see herein a significant **safety risk**, as a sufficient braking performance can no longer be guaranteed. Brakes blocking in this way may also have a negative impact on vehicle stability and pieces of brake discs falling off could endanger third parties. According to the information currently available, danger arising from such brake discs cannot thus be ruled out and so we advise that the greatest possible caution should be exercised in respect thereof.

In summary it can be declared that SAF-HOLLAND's original INTEGRAL brake discs not only comply with the legal requirements, but also with the in part considerably more stringent quality standards of SAF-HOLLAND, the standards for original equipment (e.g. ECE-R13), and of the vehicle manufacturers.

**We hereby declare explicitly that we have at no time authorized the use of the replica products and nor will we authorize their use in the future. Should they nevertheless be used on our axles, we shall not be held liable for any damage that may arise as a result and we also do not include any warranty for such components**

Please inform any customers who may be affected accordingly.

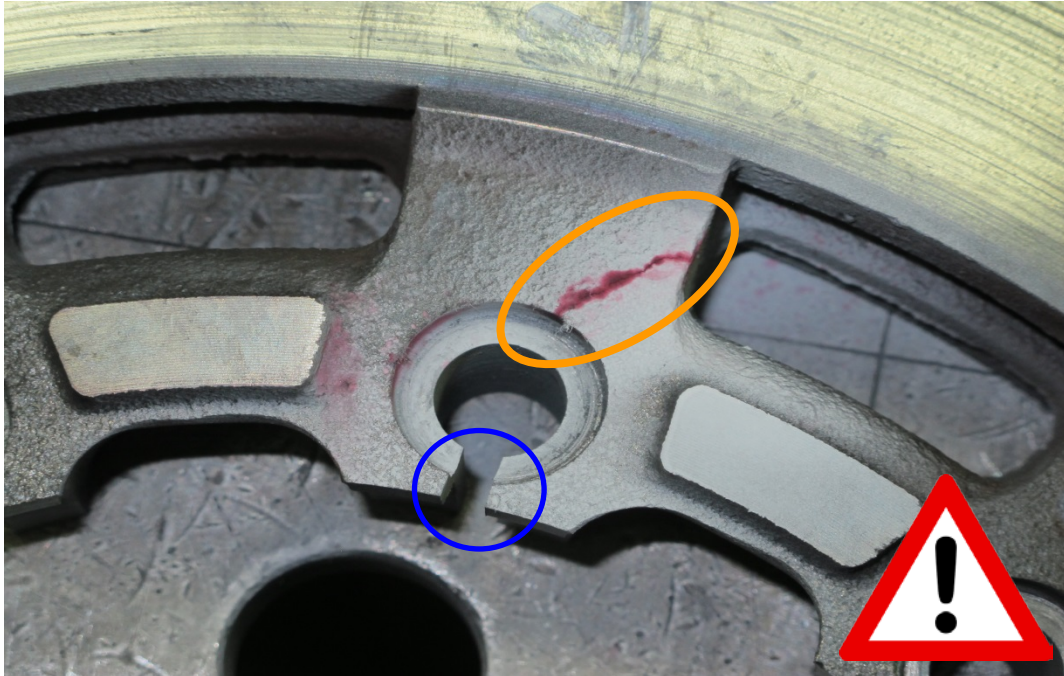
If you have any questions or require further information, please do not hesitate to contact us on telephone number +49/(0)6095/301-301.

Appendix:

- Picture material

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### Replica brake discs for our Original INTEGRAL brake discs



After the completion of tests (in accordance with GLOBAL Spec. DIN ISO 15484, carried out by HONEYWELL Bremsbelag GmbH, commissioned by SAF-HOLLAND) stress cracks are to be detected in the area of several mountings of the “one-piece”, “notched” brake disc.



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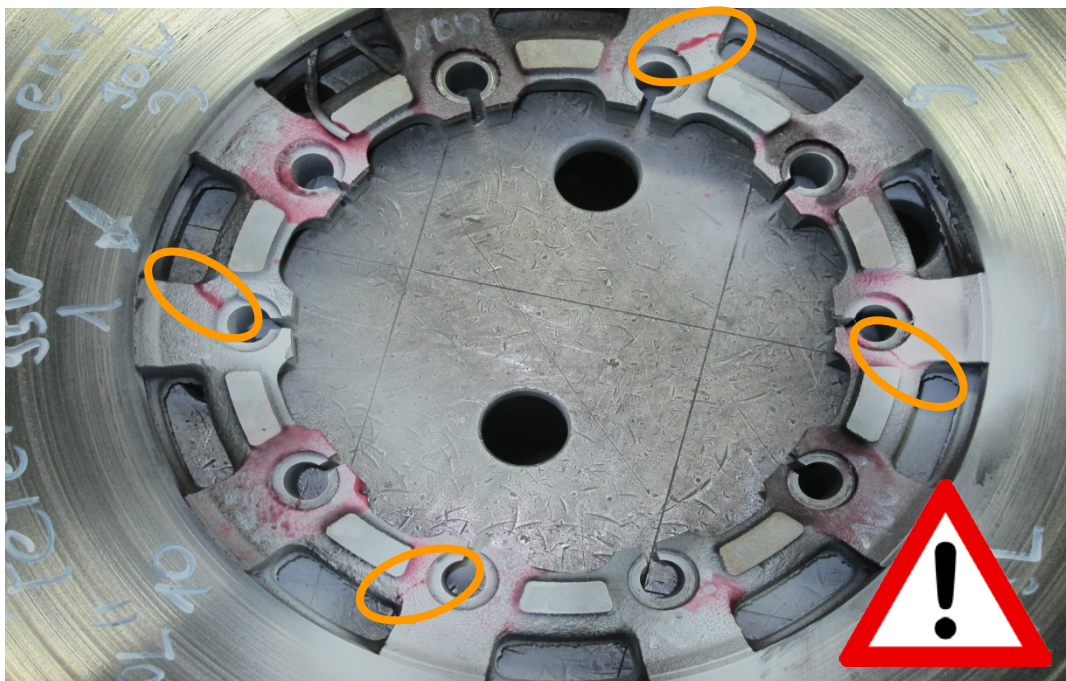


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