

**Use:** The reference block type 1 according to EN ISO 9934-2 (former description "MTU test block") is used for checking and supervision of the indication sensitivity of magnetic particle crack detection agents. The surface of the residually magnetized reference block contains a network of coarse and fine cracks. After diving into or spraying with the testing ink, the crack indication is controlled and judged. The pictures show the crack indications on an reference block type 1 obtained from a yellow-green or red-orange fluorescent and from a black indication medium together with white background paint. The indication sensitivity of different mixtures or charges can be judged by comparison of the indications obtained from the same reference block. Also, by periodical supervision of the indication pattern, the use-caused reduction of the indication sensitivity can be controlled.

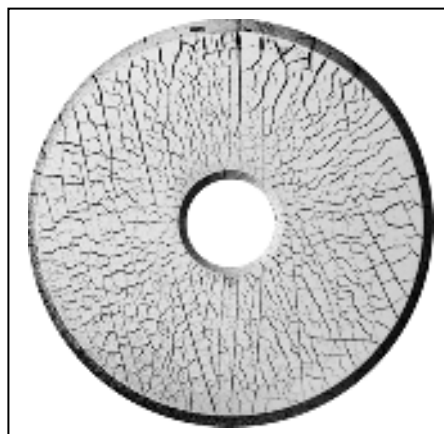
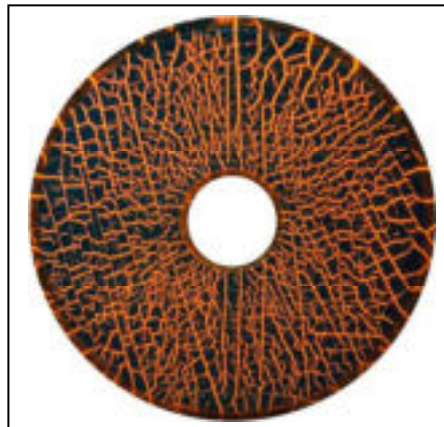
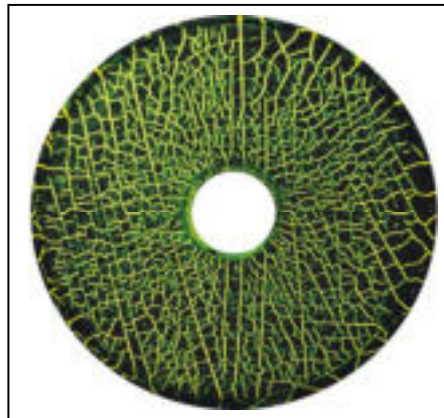
**Description:** The reference block type 1 is a residually magnetized metal disc, where, caused by a special treatment, a network of coarse and fine cracks had been generated. The magnetic field of the reference block generates stray fluxes of different strength across these cracks. More sensitive inspection media result in a more distinct indication rather than those of lower sensitivity. The central bore hole is made for easier handling.

**Application:** the reference block type 1 is, for a few seconds, immersed into or carefully sprayed with the well-mixed inspection medium. Redundant inspection medium should be dropped off. After this, depending on the used inspection medium, the crack indications are to be viewed under UV irradiation or in the daylight (viewing conditions according to EN ISO 3059 should be obeyed). For a judgement, it is recommended specially to inspect the weaker indications, as there finer differences in the indicating sensitivity become more obvious.

**Important notes for application:**

- Caused by the production procedure, the crack patterns on each side and on several test blocks are individually very different, so that the indications on one side can not be compared with the other side or other reference blocks.
- The individually perceived indication sensitivity for one defined crack on one reference block type 1 may, in case of a check of a testing solution, in comparison to a reference solution being in accordance with the testing requirements, be used as a standard. This indication sensitivity is valid for the respective reference block only and cannot be transferred.

- Ensure that the judgement of the crack indications on the reference block type 1 is always carried out under the same daylight viewing conditions (UV lamp, distance, amount of daylight, etc.).



- As the judgment of the indication sensitivity always must be done on the same reference block, photos of the crack indications may be very helpful. Also here, these photos have to be taken under exactly the same conditions (aperture, illumination, film type etc.).

**Handling, cleaning and maintenance:**

The crack indication of the reference block type 1 may be affected by contamination, strong magnetic fields, or mechanical influences. Please, observe the following hints to ensure reliable results:

- To give correct indication, the reference block should be free of dirt, oil, grease and magnetic particles from former applications. Therefore, the reference block should be cleaned after each application (wipe off with a wet cloth) and its surface be checked under UV irradiation. Furthermore, it is recommended to clean the reference block from time to time thoroughly in an ultrasonic cleansing bath. When the test block is not used for a longer time, it should be stored slightly lubricated.
- The reference block should not be exposed to strong magnetic fields such as from m.p. crack detectors, magnetizing and demagnetizing coils, magnetic holding plates, etc. as they may influence the residual field of the block in its strength and direction.
- The surface of the reference block type 1 is burnished to obtain maximum possible contrast of indication. Therefore, any damage of the surface (e.g. with abrasive paper, steel wool, glass brush etc.) should strictly be avoided.

**Hints for the control of test equipment:**

Before delivery, the indication pattern

of each reference block type 1 according to EN ISO 9934-2 is checked and documented in our company. For this, two identical photos of the crack indication obtained by use of FLUXA®-concentrate HRS, art. no. 9306 (dilution 1:20 in water) are taken under defined and always same inspection conditions. One of them is added to the final test certificate which is delivered together with each reference block. The second photo remains in our company; upon request, we can repeat the check for you under exactly same conditions as a routine supervision of your testing equipment. In this case, the actual crack pattern is compared with the initial one, and a recommendation is given for the further use.