

Experimental verification of the test procedure for measuring the retentive force of magnetic attachments as stipulated in DIS 13017(Ed.2)

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Abstract

DIS 13107 was established by combining ISO 13017 and its Amendment 1. The test procedure for measuring a retentive force of magnetic attachments was stipulated in the DIS. However, the usefulness of the procedure of latest DIS 13107(Ed.2) has not been verified. The aim of the study was to investigate effectiveness of the test procedure instructions.

Five participants, whose native language is not English, conducted the experiment for the first time. The magnetic attachments used were two flat types and one post type. Measurement was conducted at three stages.

Stage 1: Each participant read the DIS standard test procedure manual alone.

Stage 2: Participants discussed the procedure with other participants.

Stage 3: Participants discussed the procedure with an expert.

The validity of the procedure was estimated by comparing the obtained values with a value measured by the expert.

All participants generated adequate values at second stage. The values at second and third stage were almost the same. In many case, the values increased by adjustment of alignment after the samples fixation.

These results indicate that DIS 13017(Ed.2) is a useful guide for measuring retentive force. More accurate measurement can be performed by appending following sentence “align samples after the fixation”.
