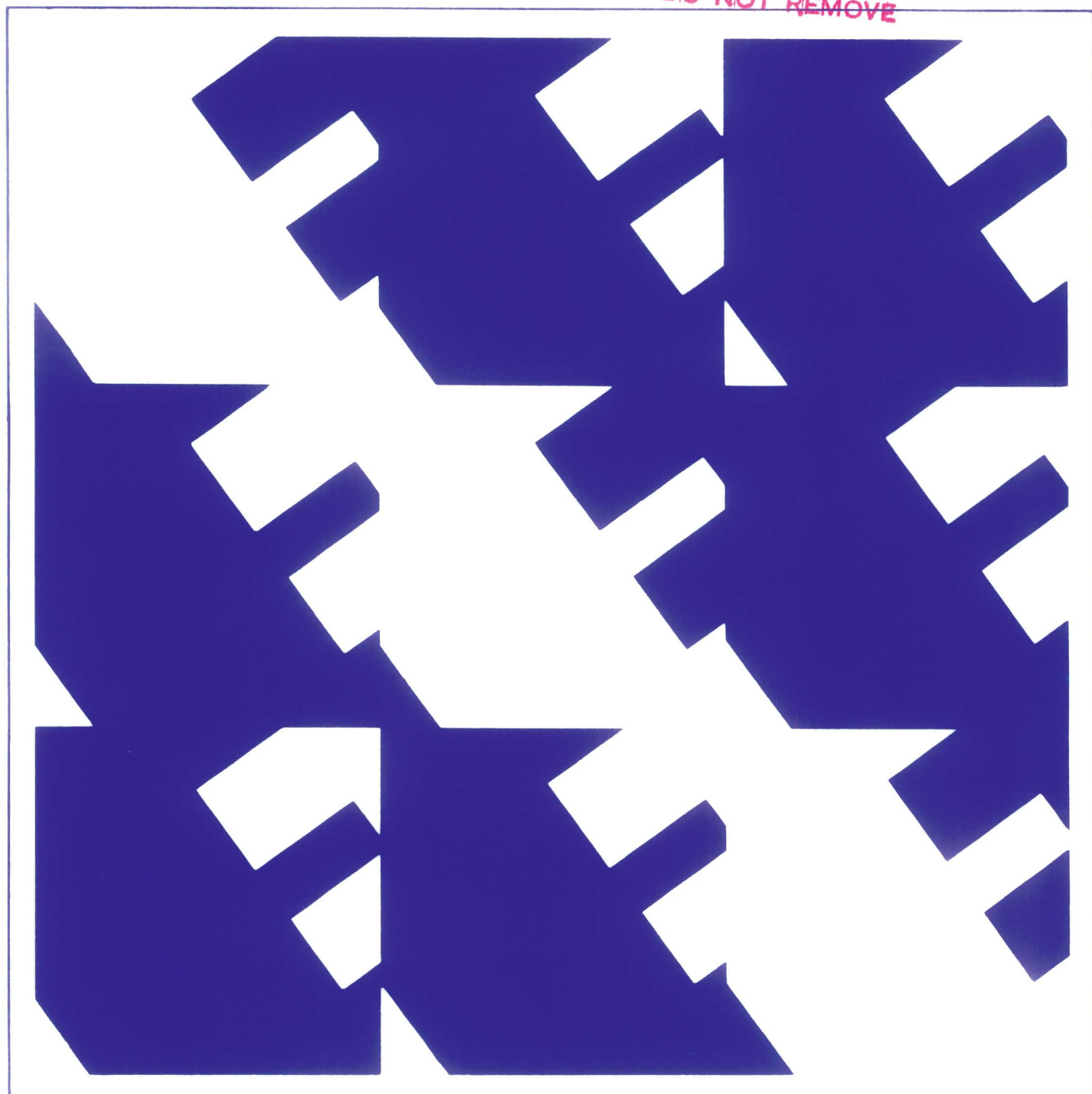


IEEE Standard Test Code for Industrial Control (600 Volts or Less)

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IEEE Std 74-1958

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**IEEE
Std 74-1958
(Reaffirmed 1974)**

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USA



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The preparation of this Test Code was carried out by the Test Codes Subcommittee of the AIEE Industrial Control Committee. The personnel of this subcommittee was:

C. T. Evans, *Chairman*

F. C. Iglehart

H. E. Rhoads

T. K. Knapp

C. A. Schaefer

W. E. Pakala

L. T. Raider, *Former Chairman*

TEST CODE FOR INDUSTRIAL CONTROL

600 Volts or Less*

1. SCOPE

1.1 This Test Code is concerned with tests on a representative sample of an industrial control device or apparatus in order to substantiate conformance of that type of device or apparatus with a recognized standard of performance. The aim is to insure that the test methods and procedures are capable of giving information which is pertinent, significant, and reproducible. No attempt is made to specify standards of acceptability for the apparatus, nor to suggest which, if any of these tests, should be made.

2. DEFINITIONS

2.1 General Remarks.

2.1.1 Contact pressure and contact follow-up are here defined in reference to relatively yielding contacts whose mating surfaces are brought into engagement by direct movement of an actuating member. The actuating member is movable from a contact-open position to the initial contact-touch position at which the electric circuit is initially closed, and thence to a final contact-closed position. With the actuating member held in any circuit-closed position, the contact surfaces may be separated by application of an external force to one of the contacts, while the mating contact is, if necessary, held so that it remains stationary. The force may be measured on a line through the center of the contact area, and in the direction of motion of the contact as the surfaces separate.

2.2 Definitions of Terms.

2.2.1 The following definitions apply to terms as they are used in this Test Code.

2.3 Initial Contact Pressure.

2.3.1 Initial contact pressure is the force exerted by one contact against the mating contact when the actuating member is in the initial contact-touch position.

2.3.2 It usually is measured and expressed in terms of the force that must be exerted on the yielding contact while the actuating member is held in the initial contact-touch position, in order to separate the mating contact surfaces against the action of the spring or other contact-pressure device.

2.4 Final Contact Pressure.

2.4.1 Final contact pressure is the force exerted by one contact against the mating contact when the actuating member is in the final contact-closed position.

2.4.2 It usually is measured and expressed in

* While a number of these test procedures would evidently be applicable to voltages greater than 600 volts, the effect of the higher voltages was not taken into consideration in developing this Test Code.

terms of the force that must be exerted on the yielding contact while the actuating member is held in the final contact-closed position, and with the mating contact fixed in position, in order to separate the mating contact surfaces.

2.5 Contact Follow-Up.

2.5.1 Contact follow-up is the distance between the position one contact face would assume, were it not blocked by the second (mating) contact, and the position the second contact face would assume were the first contact removed, when the actuating member is fixed in its final contact-closed position.

2.5.2 It is sometimes more convenient to express the contact follow-up in terms of some other linear, or angular dimension, such as the magnet-sealing gap, provided that the contact follow-up may be deduced therefrom.

2.6 Sealing Gap.

2.6.1 Sealing gap is the distance between the armature and the center of the core of a magnetic contactor when the contacts first touch each other.

2.7 Contact-Wear Allowance.*

2.7.1 Contact-wear allowance is the total thickness of material which may be worn away before the co-acting contacts cease to perform adequately.

2.8 Break (of a Circuit-Opening Device).*

2.8.1 The break of a circuit-opening device is the minimum distance between the stationary and movable contacts when these contacts are in the open position.

- a) The length of a single break is as defined above.
- b) The length of a multiple break (breaks in series) is the sum of the several breaks.

2.9 Pick-Up and Seal Voltage.

2.9.1 The pick-up and seal voltage of a magnetically-operated device is the minimum voltage at which the device moves from its de-energized into its fully-energized position.

2.10 Pick-Up Voltage.*

2.10.1 The pick-up voltage of a magnetically-operated device is the voltage at which the device starts to operate.

2.11 Sealing Voltage.*

2.11.1 The sealing voltage is the voltage necessary to complete the movement of the armature of a magnetic circuit-closing device from the position at which the contacts first touch each other.

2.12 Drop-Out Voltage.*

* American Standard Definitions of Electrical Terms.