# DIN EN ISO 9455-17:2024-04 (E)

## Soft soldering fluxes - Test methods - Part 17: Surface insulation resistance comb test and electrochemical migration test of flux residues (ISO 9455-17:2024 )

## Contents

Page

European foreword 3

Foreword 4

1 Scope 5

2 Normative references 5

3 Terms and definitions 5

4 Principle 5

5 Reagents 6

6 Apparatus 6

7 Inspection of test coupons 12
  7.1 Surface plating 12
    7.1.1 Slivering (thin metal overhang on etch runs) 12
    7.1.2 Plating nodules 13
    7.1.3 Plating pits 13
  7.2 Surface laminate 13

8 Sample preparation 13
  8.1 Preparation of the flux test solution 13
    8.1.1 Liquid flux samples 13
    8.1.2 Solid flux samples 13
    8.1.3 Flux-cored solder wire or preform samples 13
    8.1.4 Solder paste samples 14
    8.1.5 Paste flux samples 14
  8.2 Preparation of the test coupons 14
    8.2.1 Sample identification 14
    8.2.2 Test coupons 14
    8.2.3 Test coupon pre-cleaning 15

9 Procedure 15
  9.1 Methods for connecting test coupons 15
    9.1.1 Board circuitry layout 15
    9.1.2 Preconditioning of SIR test coupons prior to processing (optional) 17
  9.2 Fluxing and soldering test patterns 17
    9.2.1 Liquid and solid flux samples and flux-cored solder wire samples 17
    9.2.2 Soldering using wave solder system 17
    9.2.3 Soldering using static solder pot 17
    9.2.4 Solder paste samples 18
    9.2.5 Paste flux samples 18
  9.3 Cleaning 18
  9.4 SIR measurement 19
    9.4.1 High-resistance measurement system verification 19
    9.4.2 Test coupon measurements 19
  9.5 Electrochemical migration test 19

10 Assessment 20

11 Precision 20

12 Test report 20

**Annex A** (informative) **SIR testing guidance** 22

**Annex B** (informative) **Surface insulation resistance comb test and electrochemical migration test of flux residues — Qualification test report** 24

**Bibliography** 26