DIN 50134:2024-07 (E)

Testing of metallic materials - Compression test of metallic cellular materials

Contents

Page

Foreword 4

1 Scope 5

2 Normative references 5

3 Terms and definitions 5

4 Symbols and designations 8

5 Principle 9

6 Designation 9

7 Apparatus 9
7.1 Testing machine 9
7.2 Deformation device 10
7.3 Compressive strain measurement 10

8 Sampling 10

9 Test pieces 11
9.1 Form 11
9.2 Number 11

10 Procedure 11
10.1 General 11
10.2 Preparation of test 11
10.2.1 Estimation of the expected plateau stress 11
10.2.2 Selection of force transducer 12
10.2.3 Preload 12
10.2.4 Specification of the hystereses 12
10.2.5 Determination of the original cross-sectional area (S0) 12
10.3 Speeds and rates 13
10.4 Procedure 13

11 Evaluation 13
11.1 Plateau stress Rplt 13
11.2 Extension zero point 13
11.3 Evaluation of hystereses (mEx,d, Rpx,d and edpx) 14
11.4 Determination of crash absorption properties 14

12 Test report 14

Bibliography 16

Figures Figure 1 -- Stress/strain curve for determining characteristics in a compression test on cellular material 7

Figure 2 -- Test piece with direction of measurement and extensometer measurement lines 10

Tables Table 1 -- Symbols and their designations 8