ISO/ASTM 52924:2023-08 (E)

Additive manufacturing of polymers - Qualification principles - Classification of part properties

Contents

Page

Foreword iv

Introduction v

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Symbols and abbreviations 2
4.1 Symbols 2
4.2 Abbreviations 2

5 Classification system 3
5.1 Definition of the classes of part property 3
5.2 Typical classification of important material classes and usage of the classification system for part properties 4

6 Test specimens for determining the characteristic values for the classification system 6
6.1 General 6
6.2 Tensile properties 6
6.3 Dimensional accuracy 6
6.4 Density 6
6.5 Labelling 7
6.6 Orientation, grid arrangement, and distribution in the build space 7
6.6.1 General 7
6.6.2 Orientation and grid arrangement to be used 7
6.6.3 Distribution in the build space 7
6.7 Manufacturing 11

7 Determination of characteristic values and classification in the classification system 12
7.1 General 12
7.2 Mechanical properties 12
7.2.1 General 12
7.2.2 Determination of characteristic values 12
7.2.3 Classification in the classification system 13
7.3 Dimensional accuracy 13
7.3.1 General 13
7.3.2 Determination of characteristic values 13
7.3.3 Classification in the classification system 14
7.4 Relative part density 14
7.4.1 General 14
7.4.2 Determination of characteristic values 14
7.4.3 Classification in the classification system 14
7.5 Classification in classes of part properties 14

8 Initial classification and regular checking of the classifications 15
8.1 Standard classification procedure 15

8.2 Initial classification 15
8.3 Regular checking 15
8.4 Renewed determination of the classifications in case of replacement of relevant machine components 15

Annex A (informative) Form for part property classification in accordance with this document 17

Bibliography 18