Designation: E 6 – 03

Standard Terminology Relating to Methods of Mechanical Testing[1]

This standard is issued under the fixed designation E 6; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This terminology covers the principal terms relating to methods of mechanical testing of solids. The general definitions are restricted and interpreted, when necessary, to make them particularly applicable and practicable for use in standards requiring or relating to mechanical tests. These definitions are published to encourage uniformity of terminology in product specifications.

1.2 Terms relating to fatigue and fracture testing are defined in Terminology E 1823.

2. Referenced Documents

2.1 *ASTM Standards:*

E 8 Test Methods for Tension Testing of Metallic Materials[2]

E 8M Test Methods for Tension Testing of Metallic Materials [Metric][2]

E 796 Test Method for Ductility Testing of Metallic Foil[2]

E 1823 Terminology Relating to Fatigue and Fracture Testing[2]

3. Index of Terms

3.1 The definitions of the following terms, which are listed alphabetically, appear in the indicated sections of 4.1.

Term	Section
angle of bend	D
angle of twist	B
angular strain	see **strain**
axial strain	see **strain**
bearing area	F
bearing force	F
bearing strain	F
bearing strength	F
bearing stress	F
bearing yield strength	F
bend test	D
break elongation	see **maximum elongation**
breaking load	B
Brinell hardness number	C
Brinell hardness test	C
calibration	G
calibration factor	G
chord modulus	see **modulus of elasticity**
compressive strength	B
compressive stress	see **stress**
compressometer	G
constraint	A
creep	E
creep recovery	E
creep rupture strength	E
creep strength	E
deflectometer	G
discontinuous yielding	B
ductility	A
edge distance	F
edge distance ratio	F
elastic constants	see **modulus of elasticity** and **Poisson's ratio**
elastic limit	A
elastic true strain	A
elongation	B
engineering strain	see **strain**
engineering stress	see **stress**
extensometer	G
extensometer system	G
fatigue ductility	B
fatigue ductility exponent	B
fatigue life	B
fracture ductility	A
fracture strength	A
fracture stress	see **stress**
free bend	D
force	A
gage length	G
guided bend	D
hardness	C
indentation hardness	C
initial recovery	E
initial strain	E
initial stress	E
Knoop hardness number	C
Knoop hardness test	C
linear (tensile or compressive) strain	see **strain**
load	A
lower yield strength	B
macrostrain	see **strain**
malleability	see **ductility**
mandrel (in bend testing)	D
maximum elongation	B
mechanical hysteresis	A
mechanical properties	A
mechanical testing	A
microstrain	see **strain**
modulus of elasticity	A
modulus of rigidity	see **modulus of elasticity**

[1] This terminology is under the jurisdiction of ASTM Committee E28 on Mechanical Testing and is the direct responsibility of Subcommittee E28.91 on Editorial and Terminology except where designated otherwise. A subcommittee designation in parentheses following a definition indicates the subcommittee with responsibility for that definition.

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[2] *Annual Book of ASTM Standards*, Vol 03.01.

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