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Class of Test Structure – Mechanical Testing

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Introduction

Accreditation in the field of Mechanical Testing is described by classes and sub-classes of test.

These classes and sub-classes are fixed descriptors, free text being used to qualify or amplify terms as necessary. Where the scope of testing of a laboratory cannot be adequately described by existing descriptors, the Laboratory Accreditation Technical Committee on Mechanical Testing may from time to time establish new classes and/or sub-classes of tests.

Applications for accreditation may be made for one or more classes or sub-classes of tests, or for one or more items or specific calibrations or tests within a class of test.

Some tests are listed in the fields of Chemical Testing and Metrology as well as in the field of Mechanical Testing. Accreditation for these tests may be granted in whichever field of testing is more appropriate.

Accreditation may be granted for tests performed in mobile laboratories, field laboratories, construction sites and workshop as well as informal laboratory accommodation.

CLASSES OF TEST

4.01 Aggregates

- .01 Sampling
- .02 Tests on concrete aggregates
- .03 Tests on road aggregates

4.02 Bituminous Materials


- .01 Sampling
- .02 Portland cement
- .03 Bitumen
- .04 Tars
- .05 Fillers
- .06 Other materials

4.03 Cements and Pozzolanic Materials

- .01 Sampling
- .02 Portland cement
- .03 Blended cement
- .04 Masonry cement
- .05 Building lime
- .06 Fly ash
- .07 Mortars
- .08 Other Materials

4.04 Concrete

- .01 Sampling fresh concrete
- .02 Slump
- .03 Air content of freshly mixed concrete
- .04 Mass per unit volume of freshly mixed concrete
- .05 Bleeding
- .06 Making and curing tests specimens
- .07 Curing test specimens in the laboratory

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- .08 Compression tests on molded specimens
- .09 Indirect tensile tests
- .10 Flexural strength tests
- .11 Mass per unit volume of hardened concrete
- .12 Drying shrinkage
- .13 Securing cores from hardened concrete
- .14 Cement content of hardened concrete
- .15 Creep tests
- .16 Modulus of elasticity determinations
- .17 Setting time

4.05 Soils

- .01 Sampling
- .02 Classification tests
- .03 Chemical tests
- .04 Compacting and density tests
- .05 Strength and consolidation tests
- .06 Other tests

4.06 Cement Products


- .01 Concrete bricks
- .02 Concrete blocks
- .03 Concrete roofing tiles
- .04 Concrete pipes
- .05 Concrete railway sleepers
- .06 Other concrete products
- .07 Calcium silicate bricks
- .08 Fiber cement products
- .09 Other products

4.07 Refractories

- .01 Sampling
- .02 Cold compressive strength
- .03 Cold modulus of rupture
- .04 Other tests

4.08 Rubber and Rubber Products

- .01 Tension tests
- .02 Tear tests
- .03 Tension set tests
- .04 Compression set tests
- .05 Hardness tests
- .06 Flexing tests
- .07 Low temperature brittleness
- .08 Accelerated aging tests
- .09 Flammability tests
- .10 Swelling in liquids
- .11 Density and specific gravity
- .12 Other tests
- .13 Belting
- .14 Elastomeric bearing
- .15 Other products

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4.09 Metals and Metals Products

- .01 Tension tests on test pieces
- .02 Stress rupture tests
- .03 Tension tests on products
- .04 Hardness tests
- .05 Impact tests
- .06 Drop weight tests
- .07 Fracture toughness tests
- .08 Compression, transverse and shear tests
- .09 Bend tests
- .10 Tests on reinforcement for concrete
- .11 Tests on wire
- .12 Tests on tubes
- .13 Other Tests

4.10 Timber and Timber Products

- .01 Bending tests
- .02 Stress grading timber tests
- .03 Other tests

4.11 Glass and Glass Products


- .01 Glass
- .02 Glass products
- .03 Glass tests

4.12 Furniture

- .01 Bending tests
- .02 Stress grading timber tests
- .03 Other tests

4.13 Building boards and plywood

- .01 Particle board
 - .1 Bending test [modulus of elasticity (MOE) and modulus of rupture (MOR)]
 - .2 Internal bond
 - .3 Face screw holding
 - .4 Edge screw holding
 - .5 Thickness swelling
 - .6 Dimension measurements
- .02 Hardboard
- .03 Plywood
 - Type I: Shear test after cyclic boil test
 - Wood failure after cyclic boil test
 - Moisture content
 - Dimensional measurements
 - Type II: Delamination test
 - Moisture content
 - Dimensional measurements
- .04 Woodwool cement board
 - .1 Bending test [modulus of elasticity (MOE) and modulus of rupture (MOR)]
 - .2 Thickness swelling
 - .3 Water absorption
 - .4 Nail head pull through
 - .5 Board dimensions

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.05 Other building boards

4.14 Fiber Rope and Cordage

.01 Tension tests
.02 Other tests

4.15 Industrial Fasteners

.01 Tension tests
.02 Proof tests
.03 Tension-torque tests
.04 Stripping tests
.05 Torsion tests
.06 Drive tests
.07 Other tests

4.16 Paper and Paperboard

.01 Sampling
.02 Tension tests
.03 Tear test
.04 Burst tests
.05 Compression tests
.06 Other tests

4.17 Plastics and Plastic Products


.01 Tension tests
.02 Tear tests
.03 Burst tests
.04 Impact tests
.05 Hardness tests
.06 Low temperature tests
.07 Flammability tests
.08 Density and specific gravity
.09 Flow properties
.10 Heat distortion tests
.11 Other tests

4.18 Seat Belts and Safety Equipment

.01 Seat belts assemblies
.02 Child restraints
.03 Industrial safety harnesses
.04 Components for seat belts
.05 Other devices
.06 Safety boots and shoes
.07 Safety gloves
.08 Safety helmets
.09 Eye protectors
.10 Hearing protectors
.11 Life jackets and buoyancy vests
.12 Other clothing

4.19 Textiles and Textile Products

.01 Tension tests
.02 Tear tests

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- .03 Burst tests
- .04 Flammability tests
- .05 Wear tests
- .06 Construction tests
- .07 Other tests

4.20 Lifting Gear, Chain, Wire Rope and Fittings

- .01 Proof tests
- .02 Tension tests
- .03 Other tests

4.21 Leather and Leather Products

4.22 Adhesives and Sealant

4.23 Motor Vehicles Safety Tests

- .01 Door latches and hangers
- .02 Seat anchorage
- .03 Seat belt anchorage
- .04 Hydraulic brake hoses
- .05 Steering columns
- .06 Sun visors
- .07 Rear view mirrors
- .08 Windscreen wipers and washers
- .09 Fuel system for goods vehicles
- .10 Safety rims
- .11 Instrument panels
- .12 Head restraints
- .13 Tyres
- .14 Door strength
- .15 Hydraulic braking systems
- .16 Motor cycle and moped braking systems
- .17 Child restraint anchorage
- .18 Commercial vehicles braking systems
- .19 Other tests


4.24 Assemblies and Structures

- .01 Windows and doors
- .02 Wall, floor and ceiling panels
- .03 Trusses
- .04 Cranes
- .05 Insulator and conductor fittings
- .06 Transmission towers
- .07 Aircraft structures
- .08 Slide fasteners
- .09 Ladders
- .10 Other assemblies

4.25 Toys and Games

4.26 Sporting and Recreational Equipment

4.27 Packaging and Containers

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4.28 Cylinders and Other Pressure Vessels

- .01 Hydrostatic pressure tests
- .02 Internal and external examination
- .03 Pulsating pressure tests
- .04 Burst tests
- .05 Mechanical tests
 - .1 tension tests
 - .2 bend tests
 - .3 percent of elongation
- .06 Other tests

4.29 Welder Devices

4.30 Weighing Devices

4.31 Pipelines

4.32 Pipes, Hoses, Valves and Fittings

- .01 Hydraulic pressure tests
- .02 Head loss tests
- .03 Calibration of jets
- .04 Fire hose
- .05 Other tests

4.33 Fans and Blowers

4.34 Compressors


4.35 Pumps

4.36 Engines

4.37 Industrial Vehicles and Agricultural Vehicles

4.38 Non Destructive Tests by Radiography

- .01 Radiographic examination of metals
 - (i) Aluminum alloys
 - Welded joints
 - Castings
 - Riveted joints
 - Other specified products
 - (ii) Copper alloys
 - Welded joints
 - Castings
 - Other specified products
 - (iii) Ferrous metals
 - Welded joints
 - Castings
 - Other specified products (including stainless steel)
 - (iv) Magnesium alloys
 - Castings


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- Other specified products
- (v) Zinc alloys
 - Die-castings
 - Other specified products
- (vi) Other specified metals
 - Examination of specified products
- .02 Radiographic examination of non-metals
 - (i) Concrete
 - (ii) Rubber, other elastomers and plastics
 - (iii) Timber
 - (iv) Other specified non-metals
- .03 Radiographic examination of components and assemblies
 - (i) Aircraft structures
 - (ii) Other specified components and assemblies
 - (iii) Radiographic thickness measurements

4.39 Non Destructive Tests by Ultrasonic

- .01 Ultrasonic examination of metals
 - (i) Aluminum alloys
 - Wrought products
 - Welded joints
 - Castings
 - Other specified products
 - (ii) Ferrous metals
 - Rolled products
 - Forging
 - Welded joints
 - Butt weld - double preparation - complete penetration
 - Butt weld - single preparation
 - Tee butt weld - complete penetration
 - Tee butt weld - incomplete penetration

 - Tee butt weld - cruciform joint
 - Butt weld - set through (including nozzles)
 - Butt weld - set on (including nozzles)
 - Other specified weld types
 - Castings
 - Other specified products (including high alloy or stainless steel)
 - (iii) Other specified metals
 - Examination of specified products
- .02 Ultrasonic examination of non-metals
 - (i) Ceramics and refractories
 - (ii) Plastics and plastic laminates
 - (iii) Timber and timber products
 - (iv) Other specified non-metals
- .03 Ultrasonic examination of components and assemblies
 - (i) Aircraft structures
 - (ii) Bonded assemblies
 - (iii) Components and assemblies
 - (iv) Thickness measurements

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4.40 Non Destructive Tests by Visual Inspection

- .01 Visual inspection of metals
 - (i) Aluminum alloys
 - Welded joints
 - Coatings
 - Other specified surface conditions
 - (ii) Ferrous metals
 - Welded joints
 - Coatings
 - Other specified surface conditions
 - (iii) Other specified metals
- .02 Visual inspection of non-metals

4.41 Non Destructive Tests by Surface Methods


- .01 Penetrant testing (including visible dye and fluorescent dye techniques)
 - (i) Water washable methods
 - (ii) Solvent removable method
 - (iii) Post emulsifiable method
- .02 Magnetic particle testing (including visible dye and fluorescent dye techniques)
 - (i) Magnetic flow method
 - Welded joints
 - Forging
 - Castings
 - Other machined products
 - (ii) Current flow method (specify amps AC/DC)
 - Welded joints
 - Forging
 - Castings
 - Other machined products
 - (iii) Coil method (specify amps AC/DC)
 - Welded joints
 - Forging
 - Castings
 - Other machined products
- .03 Other specified surface techniques

4.42 Non Destructive Tests by Eddy Currents

- .01 Flaw detection
- .02 Conductivity sorting
- .03 Thickness and layer testing
- .04 Other specified electromagnetic methods

4.43 Hand Tools

- .01 Open end and adjustable wrenches
- .02 Torque wrenches
- .03 Hand hammers
- .04 Screwdrivers
- .05 Pliers, pincers and nippers
- .06 Woodworking saws
- .07 Axes and hatchets
- .08 Chisels

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.09 Other hand tools

4.44 Metallographics Tests on Ferrous Materials

- .01 Grain size
- .02 Case depth and depth of decarburization
- .03 Depth of surface defects
- .04 Non-metallic inclusion content
- .05 Macroscopic examination of steels
- .06 Graphite type and distribution in cast irons
- .07 Corrosion resistance of austenitic stainless steels
- .08 Tests on welds
- .09 Other tests

4.45 Metallographics Tests on Aluminum and Aluminum Alloys

- .01 Grain size
- .02 Depth of cladding
- .03 Macroscopic examination of wrought products
- .04 Depth of surface defects
- .05 Other tests

4.46 Metallographic Tests on Copper and Copper Alloys

- .01 Grain size
- .02 Proportion of phases
- .03 Resistance to stress corrosion cracking
- .04 Hydrogen embrittlement
- .05 Depth of surface defects
- .06 Susceptibility of brass to dezincification
- .07 Other tests

4.47 Metallographic Tests on Other Metals and Alloys

- .01 Grain size
- .02 Depth of surface defects
- .03 Other tests


4.48 Coatings

- .01 Metallic coatings
- .02 Conversion coatings
- .03 Organic coatings
- .04 Other coatings

4.49 Corrosion Tests

4.50 Servicing of Mechanical Calibration Equipment

4.51 Other Specified Mechanical Tests

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ISSUE AND AMENDMENT RECORD

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