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Standard Specification for Condition 0 Bicycle Frames¹

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INTRODUCTION

This specification standard defines a set of requirements for Condition 0 bicycle frames. Condition 0 is a vehicle usage classification defined in Classification F2043 indicating the type of riding and surface condition intended by design. Included are specifications for establishing loads and other criteria to be used with the matching test method.

1. Scope

- 1.1 This standard establishes testing requirements for the structural performance properties of Condition 0 bicycle frames.
- 1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

2. Referenced Documents

- 2.1 *ASTM Standards*:²
 - F2043 [Classification for Bicycle Usage](#)
 - F2711 [Test Methods for Bicycle Frames](#)

3. Terminology

- 3.1 *Definitions*:
- 3.2 *bicycle frame, n*—the structural member that supports the seat with rear connection for the rear wheel, front connection via the head tube for the fork and lower connection for the crank/pedal assembly.
- 3.3 *frame size, n*—the size of the frame as designated by wheel diameter used.

4. Classification

- 4.1 Condition 0 bicycle frame.

5. Performance Requirements

- 5.1 The bicycle frame shall be tested in accordance with Test Methods F2711, the Horizontal Loading Fatigue test, Vertical Loading Fatigue test, and the Impact Strength test.
 - 5.1.1 *Horizontal Loading Fatigue Test*—The frame shall be tested and ~~each~~ must complete a minimum 50 000 cycles with a cyclic load of 600 N tensile and 300 N compressive.
 - 5.1.2 *Vertical Loading Fatigue Test*—The frame shall be tested and ~~each~~ must complete a minimum 50 000 cycles with a cyclic load of 600 N to 60 N in the compressive direction.
 - 5.1.3 *Impact Strength Test*—The frame shall be tested with a drop height of ~~180~~120 mm, and the permanent set of the frame and fork shall be less than ~~40~~20 mm.

6. Rejection and Rehearing

- 6.1 Frames that fail to meet the requirements of this standard shall be rejected.

¹ This test method is under the jurisdiction of ASTM Committee F08 on Sports Equipment and Facilities and is the direct responsibility of Subcommittee F08.10 on Bicycles.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.