



Standard Consumer Safety Specification for Non-Powder Gun Projectiles and Propellants¹

This standard is issued under the fixed designation F 590; 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.

1. Scope

1.1 This consumer safety specification covers projectiles and propellants manufactured for use with non-powder guns intended for target shooting, educational, and recreational purposes and is to be used in conjunction with Consumer Safety Specification F 589. Non-powder guns are commonly identified as BB guns, air guns, or pellet guns.

1.2 The projectiles and propellants covered by this consumer safety specification are BB cal, .177 cal (4.5 mm), and .22 cal (5.5 mm) air gun shot of various materials; .177 cal (4.5 mm), 5 mm, .22 cal (5.5 mm) pellets and .177 cal (4.5 mm), 5 mm, and .22 cal (5.5 mm) darts and propellants identified as 8 and 12-g type CO₂ cylinders with both small and standard-sized necks.

1.3 This consumer safety specification does not cover propellants such as dichlorodifluoromethane or projectiles that are propelled by a combustible release of energy; non-powder gun projectiles used with products identified as blow guns, sling shots, cork guns, toy guns, or archery cross bows and other such devices; projectiles designed for adult use in obsolete non-powder guns, custom-made non-powder guns, and non-powder guns designed for and used by law enforcement, scientific, veterinary or military use; and shot used with shotguns in the firearm classification.

1.4 The following precautionary caveat pertains only to the test method portion, Section 7, of this specification: *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

F 589 Consumer Safety Specification for Non-Powder Guns²

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

Projectiles

3.1.1 *air-gun dart*—a .177 cal, 5 mm, or .22 cal non-powder gun projectile having a pointed configuration on one end and tufts on the other (see Fig. 1).

3.1.1.1 *tuft*—the material that is added to the body of a dart.

3.1.2 *air-gun shot*—a BB, .177, or .22-cal, ball-shaped, non-powder gun projectile made of lead, lead alloy, or steel (see Fig. 2).

3.1.2.1 *air-gun shot, lead*—a shot made of lead or lead alloy which may or may not have a protective finish.

3.1.2.2 *air-gun shot, lead-coated*—a shot made of steel that has a thin, uniform coating of lead or lead alloy. It may or may not have a protective finish.

3.1.2.3 *air-gun shot, steel*—a shot made of steel that is coated with a protective finish.

3.1.2.4 *dimension across flats*—the diameter of an air-gun shot, as measured across the flats.

3.1.2.5 *maximum spherical diameter*—the largest diameter of an air-gun shot, as measured with a ring gage.

3.1.3 *caliber*—the nomenclature used to indicate the bore size of a non-powder gun and the compatible projectile intended for use with that bore size.

3.1.4 *non-powder gun projectile*—a projectile that is designed for and intended to be discharged from a non-powder gun.

3.1.5 *pellet*—a .177 cal, 5 mm, or .22 cal, nonspherical, semihollow non-powder gun projectile made of lead or lead alloy. Typical examples are shown in Fig. 3.

3.1.5.1 *nose of pellet*—the forwardmost portion of a pellet.

3.1.5.2 *overall length of pellet*—the maximum dimension of a pellet as measured parallel to the axis.

3.1.6 *shot-start force*—the force that is required to insert a non-powder gun projectile into a cavity of standard size for a given caliber.

Propellants

3.1.7 *CO₂ (carbon dioxide) cylinder*—a cylinder that holds carbon dioxide in a liquid-gas combination and consists of a main body or container and a neck containing the cap and seal (see Fig. 4).

¹ This consumer safety specification is under the jurisdiction of ASTM Committee F15 on Consumer Products and is the direct responsibility of Subcommittee F15.06 on Safety Standards for Nonpowder Gun Products.

Current edition approved Oct. 15, 1992. Published December 1992. Originally published as F 590 – 78. Last previous edition F 590 – 84 (1989) ϵ^1 .

² *Annual Book of ASTM Standards*, Vol 15.07.

