



SPORTING ARMS AND AMMUNITION MANUFACTURERS' INSTITUTE, INC.
SINCE 1926

Shotshell Reference Ammunition Supplemental Information Tables

The following tables present information on the characteristics and use of shotshell reference ammunition to validate the operation of ballistic ranges.

For further information see *SAAMI Z299.2-2015 American National Standard Voluntary Industry Performance Standards for Pressure and Velocity of Shotshell Ammunition for the use of Commercial Manufacturers*

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Table 1 – Shot loads

| Gauge / Bore | Length | Type (code) | Shot Weight | Nominal Velocity ⁽¹⁾ | Shot Size ⁽²⁾ |
|--------------------------------|--------|--|-------------------------------------|---------------------------------|--------------------------|
| I. LEAD SHOT LOADS | | | | | |
| 10 Gauge | 3½" | Field (F) | 2¼ oz. | 1,210 fps | 4 |
| 12-Gauge | 1¾" | Field (F) | 1 ⁵ / ₁₆ oz. | 1,145 fps | 8 |
| | 2¾" | Field (F) | 1¼ oz. | 1,330 fps | 6 |
| | 3" | <i>Corrections for 12-ga 3" chamber test barrels are established using the 2¾" reference round. ⁽³⁾</i> | | | |
| | 3½" | Magnum (M) | 2¼ oz. | 1,150 fps | 4 |
| 16 Gauge | 2¾" | Field (F) | 1⅛ oz. | 1,185 fps | 6 |
| 20 Gauge | 2¾" | Field (F) | 1 oz. | 1,220 fps | 6 |
| | 3" | <i>Corrections for 20-ga 3" chamber test barrels are established using the 2¾" reference round. ⁽³⁾</i> | | | |
| 28 Gauge | 2¾" | Skeet (S) | ¾ oz. | 1,295 fps | 9 |
| | 3" | <i>Use 28-ga 2¾" lead shot reference rounds and the assessment in a 3" chamber for testing of lead loads.</i> | | | |
| 410 Bore | 2½" | <i>410 Bore 2½" rounds are tested in a 410 Bore 3" chamber test barrel and corrected with 3" reference rounds.</i> | | | |
| | 3" | Field (F) | 1 ¹¹ / ₁₆ oz. | 1,135 fps | 6 |
| II. NON-LEAD SHOT LOADS | | | | | |
| 10 Gauge | 3½" | Steel (ST) | 1¾ oz. | 1,260 fps | BB |
| 12 Gauge | 2¾" | <i>12-ga 2¾": rounds are tested in a 12-ga 3" chamber test barrel and corrected with 3" reference rounds.</i> | | | |
| | 3" | Steel (ST) | 1¼ oz. | 1,375 fps | 2 |
| | 3½" | Steel (ST) | 1 ⁹ / ₁₆ oz. | 1,300 fps | T |
| 16 Gauge | 2¾" | Steel (ST) | 1 ⁵ / ₁₆ oz. | 1,300 fps | 2 |
| 20 Gauge | 2¾" | <i>20-ga 2¾" rounds are tested in a 20-ga 3" chamber test barrel and corrected with 3" reference rounds.</i> | | | |
| | 3" | Steel (ST) | 1 oz. | 1,330 fps | 2 |
| 28 Gauge | 2¾" | Steel (ST) | ⅝ oz. | 1,300 fps | 6 |
| | 3" | <i>Use 28-ga 2¾" steel shot reference rounds and the assessment in a 3" chamber for testing of non-lead loads.</i> | | | |
| 410 Bore | 2½" | <i>410 Bore 2½" rounds are tested in a 410 Bore 3" chamber test barrel and corrected with 3" reference rounds.</i> | | | |
| | 3" | <i>Use 410 Bore 3" lead shot reference rounds to establish barrel corrections for testing of non-lead loads.</i> | | | |

- (1) Typical nominal velocity for the load used as reference; this is NOT the assessed velocity and is subject to change.
- (2) Subject to change.
- (3) The 2¾" reference rounds for 12-ga are assessed by firing in 3" chamber test barrels.

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Table 2 – Slug loads

| Gauge / Bore | Length | Slug Type | Slug Weight | Nominal Velocity ⁽¹⁾ | |
|-------------------------------|--------|--|---------------------------------|---------------------------------|-----------|
| | | | | @ 3' | @ 15' |
| I. RIFLED SLUG LOADS | | | | | |
| 10 Gauge | 3½" | | | | |
| 12 Gauge | 1¾" | Rifled (RS) | 1 oz. | 1,200 fps | 1,180 fps |
| | 2¾" | Rifled (RS) | 1½ oz. | 1,610 fps | 1,590 fps |
| | 3" | <i>Corrections for 12-ga 3" chamber test barrels are established using the 2¾" reference round. ⁽²⁾</i> | | | |
| | 3½" | | | | |
| 16 Gauge | 2¾" | Rifled (RS) | ⁴ / ₅ oz. | 1,600 fps | 1,540 fps |
| 20 Gauge | 2¾" | Rifled (RS) | ³ / ₄ oz. | 1,570 fps | 1,540 fps |
| | 3" | <i>Corrections for 20-ga 3" chamber test barrels are established using the 2¾" reference round. ⁽²⁾</i> | | | |
| 28 Gauge | 2¾" | Rifled (RS) ⁽³⁾ | oz. | fps | fps |
| | 3" | | | | |
| 410 Bore | 2½" | <i>410 Bore 2½" rounds are tested in a 410 Bore 3" chamber test barrel and corrected with 3" reference rounds.</i> | | | |
| | 3" | Rifled (RS) | ¹ / ₄ oz. | 1,830 fps | 1,780 fps |
| II. SABOTED SLUG LOADS | | | | | |
| 10 Gauge | 3½" | | | | |
| 12 Gauge | 1¾" | | | | |
| | 2¾" | Saboted (SS) | 1⅛ oz. | 1,345 fps | 1,320 fps |
| | 3" | <i>Corrections for 12-ga 3" chamber test barrels are established using the 2¾" reference round. ⁽²⁾</i> | | | |
| | 3½" | | | | |
| 16 Gauge | 2¾" | | | | |
| 20 Gauge | 2¾" | Saboted (SS) | ⁵ / ₈ oz. | 1,600 fps | 1,580 fps |
| | 3" | <i>Corrections for 20-ga 3" chamber test barrels are established using the 2¾" reference round. ⁽²⁾</i> | | | |
| 28 Gauge | 2¾" | | | | |
| | 3" | | | | |
| 410 Bore | 2½" | | | | |
| | 3" | | | | |

- (1) Subject to change.
- (2) The 2¾" reference rounds for 12-ga and 20-gauge are assessed by firing in 3" chamber test barrels.
- (3) This designation is assigned and reserved for future use; no reference exists currently.

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Table 3 - Reference Round Application

| Load Type: | LEAD SHOT | NON-LEAD SHOT | RIFLED SLUGS | SABOTED SLUGS |
|-------------------------|------------------------|----------------------------|-----------------------------|-----------------------------|
| Test barrel: | Full choke | IC choke | Full choke | Rifled |
| Velocity Assessment(s): | Coils @ 3' | Coils @ 3' Screens @ 6' | Coils @ 3' Screens @ 15' | Coils @ 3' Screens @ 15' |
| 10 Ga. 3½" | 10F | 103.5ST | | |
| 12 Ga. 1¾" | 121.75F ⁽¹⁾ | | 121.75RS ⁽¹⁾ | |
| 12 Ga. 2¾" | 12F ⁽²⁾ | ⁽³⁾ | 12RS ⁽²⁾ | 12SS ⁽²⁾ |
| 12 Ga. 3" | | 123MST ⁽²⁾⁽³⁾ | | |
| 12 Ga. 3½" | 123.5M | 123.5ST | | |
| 16 Ga. 2¾" | 16F | 16ST | 16RS | |
| 20 Ga. 2¾" | 20F ⁽²⁾ | ⁽³⁾ | 20RS ⁽²⁾ | 20SS ⁽²⁾ |
| 20 Ga. 3" | | 203ST ⁽²⁾⁽³⁾ | | |
| 28 Ga. 2¾" | 28S ⁽⁴⁾ | 28ST ⁽⁴⁾ | 28RS ⁽⁵⁾ | |
| 28 Ga. 3" | | | | |
| 410 bore 2½" | ⁽⁶⁾ | | | |
| 410 bore 3" | 413F | 413F ⁽⁷⁾ | 413RS | |

NOTES:

1. Testing of 12 ga. 1¾" lead shot and rifled slug ammunition is performed in 1¾" chamber test barrels and corrected with the applicable 1¾" SAAMI reference rounds for the type/shot material being tested. The use of test barrel with a 2¾" chamber is an acceptable alternative when testing 1¾" lead shot and rifled slug loads and results are to be corrected using reference rounds appropriate to the 2¾" test barrel.
2. Testing of all 12- and 20-gauge 2¾" and 3" ammunition is performed in 3" chamber test barrels and corrected with the applicable SAAMI reference rounds for the type/shot material being tested. For testing of 2¾" lead shot, rifled slug, and sabotated slug loads use of a 2¾" chamber test barrel is an acceptable alternative. **Reference round assessment firings are performed in 3" chamber test barrels.** No adjustment or correction is applied to the assessment values when using reference rounds in 2¾" chamber test barrels.
3. For testing of 12 ga. and 20 ga. non-lead shot loads, only the use of a 3" chamber test barrel is recognized.
4. 28 ga. 2¾" ammunition is to be tested in a 2¾" chamber and 3" ammunition in a 3" chamber. Corrections are developed using 2¾" reference rounds in both chamber lengths. Separate assessments are maintained for the firing of the reference rounds in each chamber length and the assessment for the chamber in use shall be used.
5. The designation "28RS" is reserved for future use.
6. All types of 410-bore 2½" rounds are tested in a 3" chamber test barrel of the appropriate choke/bore treatment for the type of payload under test.
7. Test barrel corrections for 410-bore non-lead shot loads are established using applicable SAAMI lead shot reference rounds.