



BPI LOAD GUIDE:

BALLISTIC SATURN COPPER™

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BALLISTIC SATURN COPPER™ SHOT

Introducing our Ballistic Saturn Copper™ (BSC™) shot — revolutionizing the industry with a commitment to quality and product innovation; developed by our long-term partner Spherical Precision Inc., supplier to major shotshell manufacturers worldwide.

U.S. Patent 8,122,832 B1 | Other patent(s) pending.

KEY FEATURES

Patented Saturn Shape: Utilizing the unique and patented Saturn design, which has been proven by years of field applications. Ballistic Saturn Copper™ is a duplex pellet combination specifically designed for superior ballistic performance.

Premium Material Blend: BSC™ features a specialized 50/50 blend of CIC passivated copper and tin-electroplated copper, which alters the friction behavior of the shot load by modifying surface shear and adherence properties. Tin-on-copper friction is lower than copper-on-copper friction, which is one reason why copper and tin are used in mechanical contact parts. Both types of pellets are 99.9% copper with identical average weight and a density of 8.9g/cc. The surface properties of copper and tin exhibit a complementary relationship with the friction, compression, and impact forces between the projectiles. When paired together, copper and tin surfaces exhibit a lower friction coefficient. CuBuff™ buffer also contains a dry lubricant to assist in pellet adjustment. This reduces adhesion and interfacial resistance, which is vital for peak shotshell performance.



Copper–Tin (dry contact)

- Static coefficient ($\mu_{\text{sub s}}$): ~0.4–0.6
- Kinetic coefficient ($\mu_{\text{sub k}}$): ~0.3–0.4

Copper–Copper (dry contact)

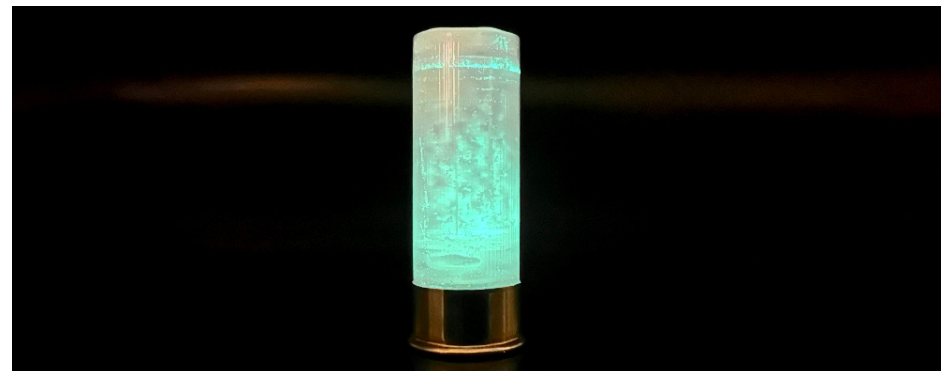
- Static coefficient ($\mu_{\text{sub s}}$): 0.5–0.8
- Kinetic coefficient ($\mu_{\text{sub k}}$): 0.3–0.6

ADVANTAGES

Compatibility: Copper is softer than steel, thus more suitable for older firearms and fixed chokes. Copper pellets are not prone to fragmentation. Each pellet is engineered and manufactured to precise tolerances and uniformity, setting a new production standard in the shot market.

Improved performance: BSC exhibits extremely impressive patterning results and the saturn design produces enhanced wound channels and greater energy transfer to the target. Our field tests on upland game and waterfowl produced eye-opening results this season. Bsc shot is now ready for the North American shotgunner.

Testing and Compliance: currently, there is no established testing device approved for copper shot, but formal updates from the US Fish and Wildlife Service (USFWS) are anticipated within the next year. In the meantime, current advisement states that shotshells should be marked “**Copper Shot**” and shot can contain a small amount fluorescent green glow uv powder for visual identification in a clear/translucent tube hull and/or clear overshoot disc, which provides visual identification. BPI labs developed **CuBuff™**, a specialized buffer material specifically made for copper shot, which will include fluorescent green glow uv powder for identification purposes. BPI will also be offering clear overshoot discs in 12ga, 16ga, and 20ga. This industry-standard indicator signals that the shell contains passivated copper composition. The UV powder will reflect under a uv indicator light for easy identification.



Mixing instructions: if CuBuff is not used, you may mix four pounds of BSC™ (one bottle) with about a half teaspoon of fluorescent green glow UV powder. This industry-standard indicator signals that the shell contains passivated copper composition. The UV powder will reflect under a UV indicator light for identification.

Experience the next level of shotshell performance with ballistic saturn copper shot—where innovation meets excellence.

BSC is currently available in three sizes:

- **#3 .140" 3.49 Grains per pellet average***
- **#4 .130" 2.85 Grains per pellet average***
- **#5 .120" 2.25 Grains per pellet average***

Load Data: BPI has completed initial load testing and continues to work on more loads. We will produce a load brochure to accompany BSC shot sales. We welcome your ideas. Our early tests have shown the benefits of full-length wads. This will remain our focus at this time. We anticipate load offerings for all gauges and shell lengths. We welcome your feedback, ideas, and your anticipated field uses of ballistic saturn copper.

****U.S. Patent 8,122,832 B1, other patent(s) pending.**

*Industry manufacturing tolerances apply.

10-GAUGE • 3-1/2" LENGTH • BALLISTIC SATURN COPPER SHOT • FOLD CRIMP																
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	SHOT SIZE	OUNCES	GRAINS	BUFFER	OVER SHOT	PSI	FPS
260205-13112	10	3.50	Cheddite	CH209	Lil' Gun	45.0		TPS1035	14FW20 in base	BSC Copper #4	1 3/4	765.6	18gr CuBuff		8000	1275

12-GAUGE • 2-3/4" LENGTH • BALLISTIC SATURN COPPER SHOT • FOLD CRIMP																
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	SHOT SIZE	OUNCES	GRAINS	BUFFER	OVER SHOT	PSI	FPS
260109-13014	12	2.75	Cheddite	CH209	Longshot	23.5		MG42		BSC Copper #4	1 1/8	492.2	20gr CuBuff		10500	1268
260116-13022	12	2.75	Cheddite	CH209	Vectan STL	29.0	BPGS	BP12	18FW20 in base	BSC Copper #4	1 1/8	492.2	18gr CuBuff	OS12	8700	1342
260116-13021	12	2.75	Cheddite	CH209	Vectan STL	29.0	X12X	BP12	18FW20 in base	BSC Copper #4	1 1/8	492.2	18gr CuBuff	OS12	8600	1325
260116-13023	12	2.75	Cheddite	CH209	Vectan STL	31.0	BPGS	BP12	18FW20 in base	BSC Copper #4	1 1/8	492.2	18gr CuBuff	OS12	9500	1365

12-GAUGE • 3" LENGTH • BALLISTIC SATURN COPPER SHOT • ROLL CRIMP																
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	SHOT SIZE	OUNCES	GRAINS	BUFFER	OVER SHOT	PSI	FPS
260115-13037	12	3.00	Cheddite	CH209	Vihtavuori N110	52.0		RANGER ELITE		BSC Copper #4	1 3/8	601.6	18gr CuBuff	OS12	7700	1205

12-GAUGE • 3" LENGTH • BALLISTIC SATURN COPPER SHOT • FOLD CRIMP																
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	SHOT SIZE	OUNCES	GRAINS	BUFFER	OVER SHOT	PSI	FPS
260114-13009	12	3.00	Cheddite	CH209	Vectan A0	28.0		BP1253		BSC Copper #4	1	437.5	20gr CuBuff		9700	1350
260114-13009.2	12	3.00	Cheddite	CH209	Vectan A0	29.0		BP1253		BSC Copper #4	1	437.5	20gr CuBuff		10600	1400
260114-12999	12	3.00	Cheddite	CH209	Vectan A0	30.0		BP1253		BSC Copper #4	1	437.5	20gr CuBuff		11100	1445
260109-13015	12	3.00	Cheddite	CH209	Vectan STL	27.0		CTPS-47		BSC Copper #4	1 1/4	546.9	20gr CuBuff		9500	1245
260116-13018	12	3.00	Cheddite	CH209	Lil' Gun	46.0		TPS1275		BSC Copper #4	1 3/8	601.6	20gr CuBuff		10900	1390
260109-13036	12	3.00	Cheddite	CH209	Lil' Gun	48.0		TPS1275		BSC Copper #4	1 3/8	601.6	18gr CuBuff	N712	11000	1440
260109-13040	12	3.00	Cheddite	CH209	Vectan STXL	31.0		TPS1275	14FW500 in base	BSC Copper #4	1 3/8	601.6	18gr CuBuff	OS12	10500	1300

16-GAUGE • 2-3/4" LENGTH • BALLISTIC SATURN COPPER SHOT • FOLD CRIMP																
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	SHOT SIZE	OUNCES	GRAINS	BUFFER	OVER SHOT	PSI	FPS
260129-13057.1	16	2.75	Cheddite	CH209	Vectan A0	18.0		CTPS-16		BSC Copper #4		350.0	10gr CuBuff	OS16	5700	1125
260129-13057.2	16	2.75	Cheddite	CH209	Vectan A0	20.0		CTPS-16		BSC Copper #4		350.0	10gr CuBuff	OS16	8300	1315
260129-13058/9	16	2.75	Cheddite	CH209	Vectan A0	21.0		CTPS-16		BSC Copper #4		350.0	10gr CuBuff	OS16	8600	1340



16-GAUGE • 2-3/4" LENGTH • BALLISTIC SATURN COPPER SHOT • FOLD CRIMP (CONTINUED)																
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	SHOT SIZE	OUNCES	GRAINS	BUFFER	OVER SHOT	PSI	FPS
260129-13057.3	16	2.75	Cheddite	CH209	Vectan A0	22.0		CTPS-16		BSC Copper #4		350.0	10gr CuBuff	OS16	10300	1425
260118-13055	16	2.75	Cheddite	CH209	Vectan A0	16.1		BP1680	14FW500 in base	BSC Copper #4	1	437.5	12gr CuBuff	OS16	9185	1058
260129-13060	16	2.75	Cheddite	CH209	Vectan A0	18.3		BP1680	14FW500 in base	BSC Copper #4	1	437.5	12gr CuBuff	OS16	10800	1155
260129-13066	16	2.75	Cheddite	CH209	Lil' Gun	34.0		BP1680	14FW422 in base	BSC Copper #4	1 1/16	464.8	12gr CuBuff	OS16	9900	1335
260129-13067	16	2.75	Cheddite	CH209	Lil' Gun	35.0		BP1680	14FW422 in base	BSC Copper #4	1 1/16	464.8	12gr CuBuff	OS16	10600	1370
260129-13064	16	2.75	Cheddite	CH209	Lil' Gun	36.0		BP1680	14FW422 in base	BSC Copper #4	1 1/16	464.8	12gr CuBuff	OS16	11000	1400

20-GAUGE • 3" LENGTH • BALLISTIC SATURN COPPER SHOT • FOLD CRIMP																
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	SHOT SIZE	OUNCES	GRAINS	BUFFER	OVER SHOT	PSI	FPS
260118-13035	20	3.00	Cheddite	CH209	Lil' Gun	30.0		BP2092	14FW422 in base	BSC Copper #4	1 1/16	464.8	12gr CuBuff	OS20	11800	1320

28-GAUGE • 2-3/4" LENGTH • BALLISTIC SATURN COPPER SHOT • FOLD CRIMP																
LOAD ID	GA	LEN	HULL	PRIMER	POWDER	GRAINS	GAS SEAL	WAD	FILLERS & INSERTS	SHOT SIZE	OUNCES	GRAINS	BUFFER	OVER SHOT	PSI	FPS
260118-13031	28	2.75	Cheddite	CH209	Lil' Gun	21.0		TPS28		BSC Copper #4		340.0	8gr CuBuff	OS28	9300	1200
260118-13032	28	2.75	Cheddite	CH209	Lil' Gun	23.0		TPS28		BSC Copper #4		340.0	8gr CuBuff	OS28	10500	1295
260118-13033	28	2.75	Cheddite	CH209	Lil' Gun	24.5		TPS28		BSC Copper #4		340.0	8gr CuBuff	OS28	11500	1360

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