

20×102mm HEI Technical Specification



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Applicable Standard: STANAG 3585, Domestic Foreign Trade Military Product Standard

Product Applicatio : Compatible with mainstream 20mm airborne automatic cannons including M61 Vulcan, M197 and M39. It is mainly used to engage troop concentrations, vehicles, oil depots, light fortifications and other targets, featuring dual operational effects of fragment killing and incendiary damage.

1. General Structural Parameters

No.	Item	Technical Data
1.1	Calibre	20 mm
1.2	Cartridge Case Length	102 mm

1.3	Overall Length of Complete Round	$\leq 168 \text{ mm}$
1.4	Total Weight of Complete Round	$264 \pm 3 \text{ g}$
1.5	Projectile Weight	$102 \pm 2 \text{ g}$
1.6	Cartridge Case Material	Brass (70/30 Copper-Zinc Alloy)
1.7	Primer Type	M103 Electric Primer

2. Interior Ballistics and Lethality Performance

No.	Item	Technical Data
2.1	Propellant Type	Double-base Spherical Propellant
2.2	Propellant Charge Mass	Approx. 38 g
2.3	Projectile Charge	Approx. 9 g RDX-based composite high explosive with special incendiary agent
2.4	Muzzle Velocity (7.5 m from muzzle)	$1030 \pm 15 \text{ m/s}$
2.5	Maximum Chamber Pressure	$\leq 4300 \text{ bar}$
2.6	Effective Firing Range	2500 – 3000 m
2.7	Maximum Firing Range	7000 m

3. Fuze and Safety Characteristics

No.	Item	Technical Data
3.1	Fuze Type	Point-detonating Instantaneous Mechanical Fuze
3.2	Fuze Arming Distance	610 m
3.3	Operating Temperature Range	-54 °C ~ +52 °C
3.4	Qualified Storage Life	10 years under standard sealed storage

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4. Hazard Classification and Shipping Information

UN Number	UN 0280
Proper Shipping Name	CARTRIDGES FOR CANNON, WITH BURSTING CHARGE
Hazard Class & Division	1.2C Explosive
Packing Group	I
Transport Regulation	Compliant with IMDG Code and military dangerous goods transportation requirements. Mixing with general cargo is prohibited.

5. Export Packaging Specification

- **Unit Packaging:** 100 rounds per sealed explosion-proof metal box, with integrated waterproof, moisture-proof and shock-resistant performance.
- **External Box Dimension:** 530 mm × 360 mm × 190 mm
- **Single Box Gross Weight:** Approx. 41.5 kg
- **Pallet Loading Standard:** 30 metal boxes per standard pallet, with a total of 3000 rounds per pallet.
- **Packaging Marking:** Permanent printing of UN hazard identification, 1.2C hazard classification, ammunition model, batch number, production date, gross/net weight and country of origin mark on each box.

6. Product Characteristics

The 20×102mm HEI high-explosive incendiary round adopts a mature and stable projectile structure with excellent ballistic consistency and high firing accuracy. Upon target impact, the ammunition simultaneously generates fragment killing and incendiary damage effects, which can effectively strike flammable targets, military vehicles, exposed equipment and troop concentration positions. All technical indicators fully comply with STANAG 3585 foreign trade delivery standards, perfectly matching NATO standard 20×102mm series airborne cannons with superior universality and compatibility.

7. Quality Statement

All products are researched and manufactured in strict accordance with official domestic foreign trade military specifications with full-process quality control, complete factory inspection records and product qualification certificates. The product performance indicators, quality standards and packaging specifications meet national export supervision requirements and end-user acceptance criteria, featuring reliable quality and stable performance.