

LEAD-FREE SHOTGUN HUNT



Rottweil R

THE FASCINATION OF DYNAMICS

Successful wingshooting requires a fascinating dynamism and truly harmonious movement. Mere fractions of a second determine whether the game is taken in a sportsmanlike and humane manner. Those who intend to hunt birds or ground game need to practice shooting shotguns and, of course, the right ammunition. More and more, the focus has been on lead-free shotshells since they are not only required in many cases but also offer advantages in terms of both pellet distribution and energy.

ROTTWEIL offers a versatile lead-free assortment for hunting wildfowl as well as wild boar. Along with classic soft iron shot, ROTTWEIL also loads modern lead-free materials like copper, bismuth and tin. Now the hunter can enjoy the fruits of a well-placed shot without having to rely on lead.

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WORLD NOVELTY: **BISMUTH + STEEL**

- Unique combo: BI-LOAD is loaded with a combination of tinned steel shot and bismuth shot
- Two layers of shot: in front, heavy, red 3.8 mm bismuth shot for more energy; in the rear, lighter 3.5 mm steel shot for perfect patterning and high hit ratios
- The best of both worlds: bismuth is leadfree and heavier than soft iron, but as soft as lead
- Visible technology: Case, cup wad and closing disc are all transparent
- High quality: reliable ignition, abrasionresistant case print, high brass head, sturdy packaging
- Visual confirmation: having red shot in front increases the visibility of the load
- High-performance load (HP): max. 1050 bar

BI-LOAD 12/76 HP MAGNUM

- 8 g bismuth shot 3,8 mm + 32g soft iron shot 3,5 mm
- 40 g of pure lead-free power



GAUGE	SHOT SIZE	WEIGHT	PACK UNIT	V 2,5 M
12/76 HP Magnum	BI 3,8 MM + FE 3,5MM	40 G	10 PIECES	375 M/S

BI-LOAD 12/70 HP

- 8 g bismuth shot 3,8 mm +
- 28g soft iron shot 3,5 mm
- 36 g of pure lead-free power

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	Only for shotguns carrying steel proof marks

GAUGE	SHOT SIZE	WEIGHT	PACK UNIT	V 2,5 M
12/70 HP	BI 3,8MM + FE 3,5MM	36 G	10 PIECES	375 M/S

BI-LOAD | FE-LOAD HIGH QUALITY, LEAD-FREE SHOT LOADS WITH TWO DIFFERENT LAYERS OF SHOT

Lead-free shotgun loads should have a similar energy delivery and maximum effective range to that of lead loads but, on the other hand, must remain affordable to shoot. As a solution for that, ROTTWEIL presents a series of lead-free cartridges that compare favorably – not only in performance but also in price – to premium-priced lead shot loads.

Both the ROTTWEIL BI-LOAD and FE-LOAD series have hit the market as absolutely unique products. BI-LOAD is the first and only shotshell that is loaded with a combination of steel and bismuth shot. FE-LOAD is, for each caliber, the heaviest steel shot load available on the market.



UNIQUE: 10% Heavier Shot Load

- Over 10% more shot: FE-LOAD is at least 10% heavier than ordinary soft iron loads and thereby the heaviest steel shot load for its caliber
- Two layers of shot: in front, heavy, red 3.8 mm shot for more energy; in the rear, lighter 3.3 mm steel shot for perfect patterning and high hit ratios
- Visible technology: hull, shot cup and top wad are all transparent
- **High quality**: reliable ignition, abrasionresistant shell markings, high brass head, sturdy packaging
- Visual confirmation: having red shot in front increases the visibility of the load
- High-performance load (HP): max. 1050 bar

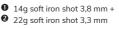
FE-LOAD 12/76 HP MAGNUM

- 16g soft iron shot 3,8 mm +
 24g soft iron shot 3,3 mm
- 40 g of pure lead-free power



GAUGE	SHOT SIZE	WEIGHT	PACK UNIT	V 2,5 M
12/76 HP Magnum	FE 3,8MM + FE 3,3MM	40 G	10 PIECES	375 M/S

FE-LOAD 12/70 HP



FE 3,8MM

+ FE 3,3MM

12/70 HP

36 g of pure lead-free power

10 PIECES

375 M/S

and the second s	TWO LAYERS OF STEEL			Only for shotguns carrying steel proof marks
GAUGE	SHOT SIZE	WEIGHT	PACK UNIT	V 2.5 M

36 G



COPPER UNLIMITED FOR UNRESTRICTED LEAD-FREE SHOOTING



Due to its lighter weight, ordinary steel shot always forces compromises in regard to its effective range, its impact energy and where it may be used. ROTTWEIL COPPER UNLIMITED is a high-performance lead-free cartridge that rivals lead shot cartridges. Shooting nearly all types of feathered and ground game is now possible without reservation.

How?

ROTTWEIL COPPER UNLIMITED is a high-performance cartridge with a maximum muzzle velocity (V2.5m) of up to 397 m/sec. This means maximum energy delivered to the game animal, long effective ranges and less lead required for moving targets.



1. MORE HITS

Due to the greater density of copper, the same shot charge weight can be made up of shot one size smaller than that of its steel counterpart. This increases the number of pellets in the load and thereby the pattern density

2. BETTER MATERIAL PROPERTIES

Shot made of pure copper has a density of 8.9 g/cm³ and is about 15% heavier than soft iron in addition to being much softer and more malleable.

3. MORE FREEDOM

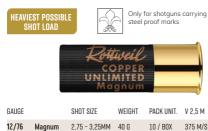
ROTTWEIL COPPER UNLIMITED allows all species of small game to be taken with lead-free ammunition and without restriction - whether over wetlands, in the woods, or in open fields.

4. SAFER

Of all lead-free Rottweil shot cartridges, ROTTWEIL COPPER UNLIMITED present the lowest danger of ricochets.

ROTTWEIL Copper Unlimited 12/76 Magnum

Lead-free magnum cartridge for top performance



ROTTWEIL Copper Unlimited 12/70

Masterfully perfected for quick hits



Only for shotguns carrying steel proof marks

Rottweil	
COPPER UNLIMITED	

GAUGE	SHOT SIZE	WEIGHT	PACK UNIT.	V 2,5 M
12/70	2,75 - 3,25MM	34 G	10 / BOX	397 M/S



The components and performances of each cartridge are tailored to produce an optimal distribution of impact energy – and thereby a killing effect – against specific game species. The fine-tuning of each loading is achieved through rigorous quality testing combined with a new measurement and analysis protocol.

Light game species need less pattern energy – the combination of energy delivery and pattern coverage – while heavier species need more. In addition to its weight, the surface area of the game to be hunted is another decisive variable. Within the usual range of shooting distances for certain species of small game, GAME EDITION cartridges deliver far more pattern energy than is necessary for a sportsmanlike kill. This gives the small game shooter the confidence of knowing that he has a reserve of energy if he needs it: if the pattern isn't quite centred on the animal, if ground game is in full run or the birds are flying fast, or if the shooting distance lies at the cartridge's maximum effective range.

This is why GAME EDITION cartridges guarantee the best possible success in small game hunting. GAME EDITION DUCK and GAME EDITION GOOSE are part of Rottweil's assortment of lead-free ammunition.





GAME EDITION DUCK

- cal. 12: dark green plastic case with 16 mm high brass head
- cal. 20: yellow plastic case with 8 mm high brass head
- steel shot
- environmentally friendly/suitable for waterfowl
- optimised for a shooting distance of 12 25 m
- practical 100-pack with carry handle



Safe to use in barrels without enhanced steel shot proof

GAUGE	SHOT SIZE	WEIGHT	PACK UNIT.	V 2,5 M
12/70	3,25 MM	32 G	100 / BOX	375 M/S
20/70	3,00 MM	24 G	100 / BOX	385 M/S

GAME EDITION GOOSE

- dark green plastic case
- 16 mm high brass head
- soft iron shot
- environmentally friendly/suitable for waterfowl
- especially high velocity (V 2.5 m = 429 m/sec)
- optimised for a shooting distance of 15 35 m

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X	steel proc

Only for shotguns carrying steel proof marks

GAUGE	SHOT SIZE	WEIGHT	PACK UNIT.	V 2,5 M
12/76	3,25 MM	35 G	10 / BOX	429 M/S



SOFT IRON SHOTSHELLS FOR THE ENVIRONMENTALLY-CONCIOUS SHOOTER

ROTTWEIL STEEL LINE offers a wide assortment of soft iron shotshells to meet the diverse demands of waterfowl hunters. Hunters with sensitive shotguns choose the low-pressure STEEL GAME. Hunters who desire more energy from their modern guns proofed for steel shot reach for STEEL GAME HV. And the

ROTTWEIL STEEL GAME HV

THE FAST SOFT IRON CARTRIDGE

ROTTWEIL have expanded their assortment of soft iron cartridges by adding an HV load. This lead-free cartridge with CIP-approved soft iron shot differentiates itself from ROTTWEIL STEEL GAME through its higher velocity (HV). It transmits more energy to the target at longer shoot-ing ranges. ROTTWEIL STEEL GAME HV with soft iron shot is non-toxic and is therefore suitable for waterfowling. For shooters wanting a fast cartridge capable of long-distance performance, ROTTWEIL STEEL GAME HV with soft iron shot is also

GAUGE	SHOT SIZE	WEIGHT	PACK UNIT.	V 2,5 M
12/70	3,0 - 3,75 MM	32 G	25 / BOX	400 M/S
20/70	3,25 MM	24 G	10 / BOX	400 M/S

ROTTWEIL STEEL GAME

This cartridge with CIP-compliant iron shot was developed specifically for shooting in environmentally sensitive areas, e.g. near water or in areas where no lead shot is permitted. Safe for use in barrels with 70 mm (2¾ in.) chambers and bearing normal proof marks.

GAUGE		SHOT SIZE	WEIGHT	PACK UNIT.	V 2,5 M
12/70	NORMAL PROOF	2,6 - 3,25 MM	32 G	25 / BOX	375 M/S
16/67,5	NORMAL PROOF	3,0 MM	26 G	10 / BOX	370 M/S

ROTTWEIL STEEL GAME SPEED 28 FAST, LIGHT AND ENVIRONMENTALLY FRIENDLY

SPEED 28 is the light and fast soft iron cartridge in the STEEL GAME series. Due to the high maximum muzzle velocity (V2.5 m) of 425 m/sec. the lead factor for moving targets can be noticeably reduced.

At the same time, STEEL GAME SPEED 28 can be shot in barrels with standard proof marks and with any

GAUGE	SHOT SIZE	WEIGHT	PACK UNIT.	V 2,5 M
12/70 NORMAL PROOF	3,0 + 3,25 MM	28 G	25 / BOX	425 M/S

STEEL GAME SPEED 28 is recommended for shooting fast-flying small to medium waterfowl. As different as the products in the Steel Line might be, they have one thing in common: high quality at a reasonable price.

environmentally friendly. Only for use in barrels with 70 mm (2¾ in.) chambers and bearing magnum proof marks!

- 12 ga. with silver-coloured polyethylene case
- 20 ga. with yellow polyethylene case
- 12 ga. with 20 mm brass head
- 20 ga. with 16 mm brass head
- special plastic wad
- soft iron shot
- especially fast (HV)
- environmentally friendly/suitable for waterfowl

Only for shotguns carrying steel proof marks

- 12 and 16 ga. with silver-coloured polyethylene case
 - 20 ga. with yellow polyethylene case
- 12 ga. with 20 mm brass head
- 16 and 20 ga. with 16 mm brass head
- special wad
- steel shot
- environmentally friendly/suitable for water fowl

Useable in guns without higher gas pressure (magnum) proof marks.

choke restriction. Ideally suited to small and medium-sized waterfowl such as teal.

- silver-coloured polyethylene case
- 20 mm brass head
- special plastic wad
- 28 g soft iron shot load
- environmentally friendly/suitable for waterfowl

Useable in guns without higher gas pressure (magnum) proof marks.









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WHAT IS THE EFFECTIVE SHOOTING RANGE AND THE SUF-FICIENT TARGET ENERGY WITH SOFT IRON SHOTSHELLS AS OPPOSED TO LEAD?

In order to achieve a comparable effect, you will have to reduce the usual shooting distance by 5 to 10 m, and it is advisable to increase the shot number by two sizes. Example: Duck with 2.7 mm lead and with 3.25 mm soft iron, that means instead of no. 6 now use no. 4.

HOW DO I DETERMINE THAT A SHOTGUN IS PROOFED FOR Higher gas pressures and steel shot?

The proof marks tell you this and the barrel pair is marked with a lily in the area of the hook tang (drawing).

WHAT IS THE DIFFERENCE BETWEEN STANDARD AND HIGH-PERFORMANCE SHOTSHELLS IN THE CASE OF LEAD-FREE SHOTSHELLS?

Standard shotshells in 12/70 gauge have a maximum pressure (Pmax) of 740 bar. In order to use regular (not steel proof) guns, the shot size must not exceed 3,25mm, the velocity at V2,5 is limited to 400 m/s and a muzzle impulse of 12 n/s. High-performance shotshells (12/70 gauge) are marked with the Pmax indication 1050 bar on the case and are limited to 430 m/s velocity at V2,5. The muzzle impulse may not exceed 13.5 Ns. The shot size has no upper limited.



CAN I HAVE A SHOTGUN TESTED FOR SUITABILITY TO USE HIGH-PERFORMANCE SHOTSHELLS?

Yes, but this requires proof testing for increased gas pressure (1370 bar) and testing of suitability for steel shot (lily). In any case you should have your shotgun evaluated before the testing, as it otherwise can result in damage in the muzzle area of the gun.

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WHAT ARE THE FEATURES THAT DISTINGUISH A GOOD SOFT IRON SHOTSHELL FROM ONE THAT IS NOT AS GOOD?

There are for sure differences. Among other things you will notice it from the price of the shotshell. A responsible manufacturer meets the CIP requirements with regard to the hardness of the soft iron shot with 100 HV on the inside. The intermediate material, i.e. the plastic wad is from high-quality material with stronger walls to protect the inside barrel - especially in the choke area. Of course, ROTTWEIL meets the maximum permissible values for the muzzle impulse and velocity

IS THE SHOT PATTERNING WITH SOFT IRON COMPARABLE TO THAT OF LEAD SHOT?

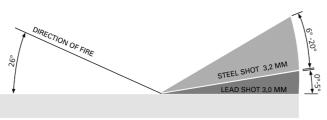
Yes, with good shot you will also get good patterning. By avoiding surface wear of the shot (thick-wall plastic wad), there is less edge shot and the "shot expansion" is somewhat shorter than with lead and the concentration of the pattern is more centred, i. e. steel shot stays together somewhat better than lead shot.

HOW DOES STEEL SHOT PERFORM COMPARED TO LEAD?

Due to the fact that soft iron shot is harder than lead shot, iron shot pellets deform only minimally and maintain their round shape in flight. This results in fewer stray pellets and a shot string that produces a tighter pattern than that of lead shot loads. A result of this is that the shot pattern has a concentration of hits that is clearly higher in the center and a greater number of hits per target segment than with lead shot. We must, however, warn of the increased danger from ricochets with steel shot. Since steel shot deforms less than lead shot, the reduction in velocity upon impact with a hard surface is significantly less than it is with ductile lead shot. The angle of deflection is also larger than with lead shot.

WHICH ALTERNATIVES ARE THERE TO STEEL SHOT?

Aside from soft iron there are many materials that are suitable for lead-free shooting, e.g. tin, zinc, tungsten or even gold. These metals should not only be heavy but also ductile and above all affordable if they are to replace lead. Rottweil has chosen copper, bismuth and tin from the possible available candidates because they (including in combination with steel shot) present the optimal compromise between high weight, CIP-specified hardness and a good price-to-performance ratio.



CONCRETE FLOOR OR WATER SURFACE

THOUGHTS FROM THE FIELD

"After intensive use of soft iron shot whilst duck shooting with the ROTTWEIL GAME EDITION DUCK, I can say that I did not observe any great disadvantages compared to the use of lead shot. The shooting distances of between 25 and 30 meters were totally feasible. Greater distances are, in my estimation, also practicable, although one needs plenty of practice to learn the limits of both the shot and one's shooting abilities. In all, soft iron shot loads have convinced me of their functionality and will continue to be my companions on future duck hunts."



Mareike Heyken, passionate small game hunter and ROTTWEIL influencer



eastfrisian_huntress

CARTRIDGE _____ SUITABLE _____ NOT SUITABLE GUN STEEL SHOT DIAMETER - Ø (MM) PROOF MARK CHOKE BORE < 2,50 2,50 2,75 3,00 3,25 3,50 3,75 4.00 > 4 00 SOFT IRON CARTRIDGES WITH STANDARD PRESSURE UP TO 740 BAR CYLINDER CHOKE 1/4 1/2 3/4 1/1 HIGH-PERFORMANCE SOFT IRON CARTRIDGES WITH ENHANCED PRESSURE UP TO 1050 BAR CYLINDER CHOKE 1/4 1/2 ENHANCED STEEL SHOT PROOF 3/4 1/1 SOFT IRON CARTRIDGES WITH STANDARD PRESSURE UP TO 780 BAR CYLINDER CHOKE 16 Normal proof 1/4 1/2 3/4 1/1 SOFT IRON CARTRIDGES WITH STANDARD PRESSURE UP TO 830 BAR CYLINDER CHOKE 20 NORMAL PROOF 1/4 1/2 3/4 1/1 HIGH-PERFORMANCE SOFT IRON CARTRIDGES WITH ENHANCED PRESSURE UP TO 1050 BAR* CYLINDER CHOKE ENHANCED 1/4 1/2 STEEL SHOT PROOF 3/4 1/1 * HIGH-PERFORMANCE STEEL SHOT CARTRIDGES ARE MARKED '1050 BAR' ON THE CASE BODY SOURCE: PROOF HOUSE ULM (GERMANY)

WHICH SHOTGUNS ARE SUITABLE FOR STEEL SHOT CARTRIDGES?





UP TO 30% MORE ENERGY, 100% LEAD-FREE



ROTTWEIL EXACT GREEN MAGNUM 30% MORE ENERGY

The magnum load, which has a muzzle velocity of 565 m/s, delivers the highest stopping power and requires less lead on running game.

- Transparent plastic case with 20 mm high brass head
- Shiny silver, lead-free, tin shotgun slug weighing 25 g
- Green plastic tail section
- For shotguns with magnum proof (max. 1050 bar)

GAUGE	BULLET WEIGHT	PACK UNIT.	V 2,5 M
12/70 Magnum	25 G	5 / BOX	565 M/S



A steel shot proof is not necessary

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In some regions of Europe, it is now legally required that only lead-free slug loads be used for hunting. Nonetheless, the new ROTTWEIL cartridges with the lead-free EXACT GREEN slug are more than just an ecological alternative to lead slugs. More importantly, ROTTWEIL EXACT GREEN cartridges deliver more energy into the target than ordinary lead slug loads. Thanks to the lower slug weight, they can be loaded to a higher velocity without being in danger of exceeding the maximum pressure limit for that caliber. Due to the extreme increase in velocity, energy figures are up to 30% higher than comparable loads. Lower slug weight at higher velocity also means a flatter trajectory as well as – with moving targets – less lead for the shot. The 25 g slug for the ROTTWEIL EXACT GREEN is made of tin. This material is very soft and has approximately the same deformation characteristics as lead. That is why this tin slug may be used in shotguns that do not have a steel shot proof.

Two variants are offered in 12/70:

A steel shot proof is not necessary

- a variant with standard working pressure that can be used in all shotguns
- a variant with a magnum load (max. 1050 bar) for shotguns with magnum proof

ROTTWEIL EXACT GREEN LEAD-FREE, EVEN FOR SENSITIVE SHOTGUNS

This is the standard load, which has a muzzle velocity of 515 m/s and can be used in ordinary shotguns without a magnum proof. Yet it delivers 20% more energy than comparable lead slug loads.

- Transparent plastic hull with 20 mm high brass head
- Shiny silver, lead-free, tin shotgun slug weighing 25 g
- Green plastic tail section
- May be used in shotguns with a normal proof

GAUGE	BULLET WEIGHT	PACK UNIT.	V 2,5 M
12/70	25 G	5 / BOX	515 M/S





OVERVIEW OF THE LEAD-FREE PROGRAM

ITEM NO.		GAUGE	SHOT SIZE IN MM	SHOT NUMBER	SHOT WEIGHT IN G	CTG/BOX		
ROTTWE	IL PREMIUM LINE BISMUTH / SO							
241 40 43	ROTTWEIL BI-LOAD HP	12/70	BI 3,8 + FE 3,5	NO. 2 NO. 3	8G BI + 28G FE= 36G	10		
241 40 42	ROTTWEIL BI-LOAD HP MAGNUM	12/76	BI 3,8 +FE 3,5	NO. 2 NO. 3	8G BI + 32G FE= 40G	10		
241 40 45	ROTTWEIL FE-LOAD HP	12/70	FE 3,8 + FE 3,3	NO. 2 NO. 4	14G FE + 22G FE = 36G	10		
241 40 44	ROTTWEIL FE-LOAD HP MAGNUM	12/76	FE 3,8 + FE 3,3	NO. 2 NO. 4	16G FE + 24G FE = 40G	10		
ROTTWE	IL PREMIUM LINE COPPER CART	RIDGES						
231 92 11	ROTTWEIL COPPER UNLIMITED	12/70	2,75	NO. 6	34	10		
231 92 12	ROTTWEIL COPPER UNLIMITED	12/70	3,0	NO. 5	34	10		
231 92 13	ROTTWEIL COPPER UNLIMITED	12/70	3,25	NO. 4	34	10		
231 92 14	ROTTWEIL COPPER UNLIMITED MAGNUM	12/76	2,75	NO. 6	40	10		
231 92 15	ROTTWEIL COPPER UNLIMITED MAGNUM	12/76	3,0	NO. 5	40	10		
231 92 16	ROTTWEIL COPPER UNLIMITED MAGNUM	12/76	3,25	NO. 4	40	10		
ROTTWEIL GAME EDITION SOFT IRON CARTRIDGES								
240 33 60	ROTTWEIL GAME EDITION DUCK	12/70	3,25	NO. 4	32	100	X	
240 86 48	ROTTWEIL GAME EDITION DUCK	20/70	3,0	NO. 5	24	100		
240 54 50	ROTTWEIL GAME EDITION GOOSE	12/76	3,25	NO. 4	35	10		



ITEM NO.		GAUGE	SHOT SIZE IN MM	SHOT NUMBER	SHOT WEIGHT IN G	CTG/BOX	
ROTTWEIL	STEEL LINE SOFT IRON CARTRI	DGES					
231 69 09	ROTTWEIL STEEL GAME HV	12/70	3,0	NO. 5	32	25	Ŷ
231 69 10	ROTTWEIL STEEL GAME HV	12/70	3,25	NO. 4	32	25	Â
231 69 11	ROTTWEIL STEEL GAME HV	12/70	3,5	NO. 3	32	25	Â
231 69 12	ROTTWEIL STEEL GAME HV	12/70	3,75	NO. 2	32	25	Â
231 69 15	ROTTWEIL STEEL GAME HV	20/70	3,25	NO. 4	24	10	Â
231 69 18	ROTTWEIL STEEL GAME	12/70	2,6	NO. 6,5	32	25	X
231 69 19	ROTTWEIL STEEL GAME	12/70	3,0	NO. 5	32	25	X
231 69 20	ROTTWEIL STEEL GAME	12/70	3,25	NO. 4	32	25	
231 73 14	ROTTWEIL STEEL GAME	16/67,5	3,0	NO. 5	26	10	
231 69 80	ROTTWEIL STEEL GAME SPEED 28	12/70	3,0	NO. 5	28	25	X
231 69 81	ROTTWEIL STEEL GAME SPEED 28	12/70	3,25	NO. 4	28	25	X
DOTTWE	EVEDA LINE OATDIDOEO MU			(TIN)			

ROTTWEIL EXTRA LINE CATRIDGES WITH SHOTGUN SLUGS (TIN)

241 40 66	ROTTWEIL EXACT GREEN MAGNUM	12/70	25	5	X
241 40 65	ROTTWEIL EXACT GREEN	12/70	25	5	

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