norma®

Professional Hunter

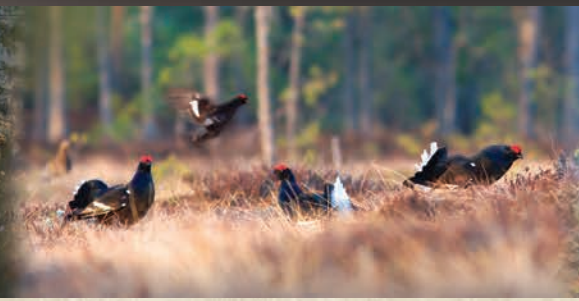
ENGLISH

OVER A HUNDRED YEARS OF DEDICATION, COMMITMENT AND QUALITY.

OUR PHILOSOPHY

Welcome to the Norma world of precision, excitement, reward and continuous renewal!

When does the hunt start - when is it really over? For the true hunter the answer is easy, it's a journey that once begun and one that never ends. As every journey it has its peak moments – the Hearth of the moment when you feel your heart pounding, the palm of your hand getting moist, the target is in the perfect position and you pull the trigger – and you know that Norma will deliver the expected result, over and



over again.

Many of us at Norma also keen hunters and shooters, with numerous Olympic-, World- and European championship medals proving that we know what we speak about. Thorough preparations are required to make the score and beat records. Just like the day on the range or in the field, every day in our modern production facility begins with reinforcing the target to perform even better than yesterday. Precision is the key word, the mantra we all repeat. Just to make sure we don´t ever forget, it´s even incorporated in our company name; Norma Precision AB.

Hitting the target, predictably every time, is a key objective for every hunter and sports shooter. Norma has successfully fulfilled the demands of the global hunting and sport-shooting community for over a decade, always being contemporary, always being reliable. At Norma, precision begins with selecting the right materials, employing and training the best people and running state-of-the-art machinery that turns out the correct product every time. We test each production batch several times whilst the components are being manufactured, and no product leaves our premises before it has proven that it delivers what is expected. We know, that when you use a Norma product you can focus 110% on your target, no need to be distracted by worry how the cartridge will perform when you put it to work.

For over 110 years Norma has enjoyed the trust of the global hunting and shooting community. Our every action is aimed towards making sure this trust is reinforced every time you use a Norma product. Our promise to the shooting community is simple – quality in every aspect, unmatched precision every time. Failure is not an option! We are only satisfied when you are satisfied!

PAUL-ERIK TOIVO, CEO
NORMA PRECISION AB

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www.norma.cc
www.norma-usa.com

COMMITTED TO THE PASSION OF SHOOTING

OUR HISTORY

The production of ammunition demands comprehensive expertise to be passed on from generation to generation. In 1902, Ivar Enger started a factory for the production of projectiles for target ammunition in Åmotfors, Sweden, 20 km from the Norwegian border. Enger and his two brothers already ran a factory in Norway, which was politically uncertain at that time.

With three employees, a profit of 1.318 Swedish Crowns and a production of 225,000 projectiles, the first year of Norma's history went by.

In 1939, Norma had some 80 employees, and by the outbreak of WWII, the demand for military ammunition rose and the number of employees quickly jumped to 800.

In the '50s, Norma started the progression to civilian ammunition production for hunting and sport shooting.

Between 1965 and 1979, company ownership had shifted on several occasions. FFV, owned by the Swedish government, bought Norma in 1979 and all military production was moved to another FFV-owned factory. From this point Norma focused entirely on producing hunting and target ammunition.

>> NORMA 1895 – 2013

1895	Norma Projektilfabrik A/S is founded in Oslo, Norway.
1902	A subsidiary is opened in Åmotfors, with one worker and two machines.
1911	The first factory is built.
1940	In rapid expansion, 10 new factory buildings are added.
1942	The company now employs 800 workers.
1950	Norma turns to new markets and countries. The production of civilian ammunition begins, for hunting and sport shooting.

The first home of Norma in Åmotfors, Sweden, in 1902.

When the Swedish shooting community needed a domestic supplier in Sweden, the Norwegian Enger brothers set up their business in Åmotfors, some 20 kilometres from the border to Norway.

The first Norma factory, built in 1911.

The Norma factory building in the 1950s.

1965 Norma merges with its competitor Svenska Metallverken.

1967 The new factory is opened. It employs 530 workers and manufactures 64 million cartridges.

1975 Hasselfors Bruk AB becomes the new owner.
Now 65 million cartridges are manufactured.

1979 FFV acquires Norma. Rationalization of the corporate structure follows. Military production moves to Vanäsverken.

1990 Norma is acquired by Dynamit Nobel AG.

2002 Ruag of Switzerland takes over Norma.
Production reaches 23 million cartridges in 70 calibres.
This is one of the biggest ranges of rifle ammunition in the world.

2011 Output reaches 30 million rounds of ammunition in 106 different calibres.

2013 Norma continues to grow and provide hunting and competitive ammunition for shooting demands around the world, with more than 110 calibres.

2013 Norma adds new line extensions in the US market and expands US product distribution.

In the 1960s, a new factory is built to modern standards, and opens in 1967.

In Norma's conference facility, the complete range of calibres manufactured through the years is on show.

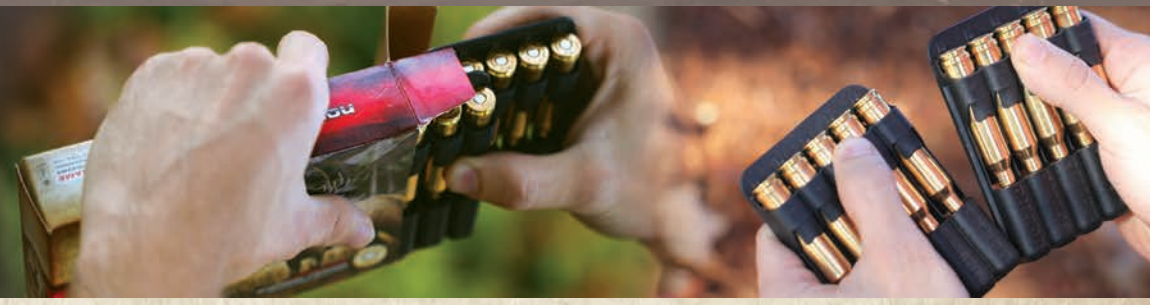
Norma continues to expanded their manufacturing and workforce to meet the international demand for precision products.

THE EVOLUTION OF DESIGN...

The NEW Norma catalogue and our packages together introduce a brand-new visual design. Blending wildlife with landscape images capture our way of experiencing nature with all our senses.

For over 25 years, we have been using the special Norma mode of packing 20 rounds of hunting ammunition in a red plastic tray, inserted into the box from one of the gables. This is a well-accepted way of keeping the hunting rounds neatly separated and firmly fixed to the tray, thereby preventing them from rubbing against each other and rattling when the hunter moves. This way of packaging has

>> EVOLUTION FROM OLD TO NEW >>



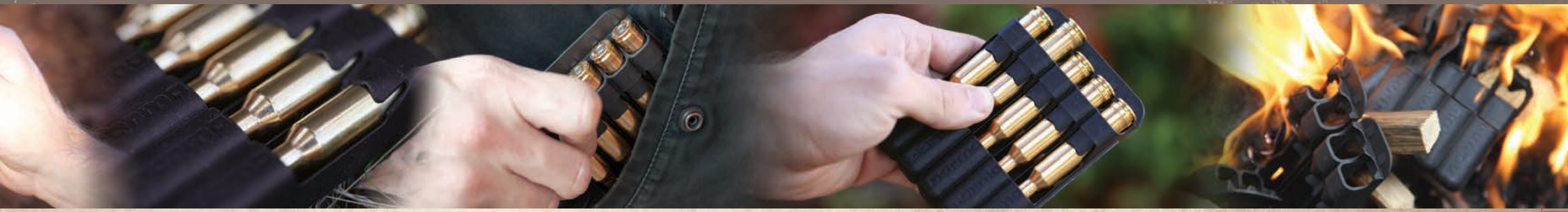
been copied by many others in the trade.

Now, we are taking the next step. The basic idea of keeping rounds of ammunition firmly fixed and safely away from each other is still a requirement. But more than this. Now the trays have been made up from modules of five cartridges, so that the hunter can tear off a five-module and put it into a pocket. Knowing that most of the time five rounds are more than needed in a hunting situation, this is certainly a good improvement.

We want to help you protect our product in a practical, and environmentally friendly way. Our new inserts are now 50% wood-fiber; this makes it possible to break them into the desired size you want to keep handy. This also keeps our cartridges from making any noise in your pockets while you are in the field.

To smoothly remove the cartridge from the insert, just press the chest of the case and push it out.

By making our inserts from 50% renewable raw material, we strive to make our product more environmentally friendly. This also allows our inserts to be used as a good fire starter.



THE QUALITY OF OUR PEOPLE...

When the ambition is to produce components of top quality and cartridges with top precision, the starting point has to be that all raw material used and all the steps in the production are also of top quality. To achieve this it is absolutely necessary to carefully inspect raw material, tools and all steps of the production process, up until the completed cartridge.

LAB

Most raw materials that arrive at Norma are first sent to the receiving inspection in the lab, while some products are examined in other departments. In the lab, there are also inspections made against the production departments. In the cartridge case department the machine setter, with the help of the lab, determines when the right criteria have been reached, in order to start up a new run in the production and more, the hardness, material structure and measurements of the cases are checked, through all processes.

CARTRIDGE CASE DEPARTMENT

The most important factor in the case production is quality control. From start to finished case, there are continuous inspections, 15-20 measurements in total, depending on the case. Of finished cases, five of each 300 cases are taken out for inspection. In addition to this, a final inspection is made where the cases are put through a measuring device and visually inspected.

THE BULLET DEPARTMENT

The production of precision bullets requires tools with high precision in order for all bullets to turn out the same. To achieve top precision, the smallest possible deviations in balance, jacket wall-thickness, diameter, weight and length are crucial to the results. Therefore, it is important to both perform a careful inspection of the jacket production and the final inspection of the bullet. The final proof of good precision will come at the test shooting. All bullet batches are test shot for precision. Hunting bullets are also expansion tested.

TOOLS AND MAINTENANCE

All tools for the production are manufactured at Norma by Norma's own toolmakers and all tools are inspected according to fixed routines. We measure all production tools with a measuring device that has an accuracy

REFLECTS THE QUALITY OF OUR PRODUCT

of up 1/10000 mm, and which in turn is regularly calibrated. In Norma's production there are much as 2517 measuring instruments used – all are inspected and calibrated at fixed intervals.

THE LOADING DEPARTMENT

Cases and bullets of top quality are the starting point for loading of Norma cartridges, and the loading process itself will ensure that the finished product is also of top quality – Norma's hunting and shooting cartridges.

It is important that a bullet has the right extraction force and that the primer is correctly placed in the primer pocket. The cartridge must be loaded with powder that is optimal for the calibre, the case volume and the bullet weight, in order to achieve the desired muzzle velocity and the best precision that the cartridge can perform. To find the best powder, all powder batches are tested for velocity and pressure. The maximum operating pressure should also be correct in relation to the CIP standards.

THE BALLISTIC DEPARTMENT

With each new charge, the respective cartridges are fired into their correct velocity and are precision inspected before manufacturing can start. Then tests are run several times per day and pressure, velocity and precision are measured.

All new powders and batches of powder are tested in the same way. Cartridges from the production are regularly taken out for test shooting, to ensure the same good quality from the first to the last cartridge in the series.

LAST BUT NOT LEAST...OUR STAFF

Without skilled and capable people, the most modern and sophisticated machine and inspection instrument cannot produce quality cartridges. For you and for Norma, it is the combination of the person, the machine and the measuring instrument that is the most important guarantee of cartridges of the finest quality!


10 RS.
भारत INDIA
TANZANIA

HUNTING AROUND THE WORLD

NORMA STORIES FROM AROUND THE WORLD

From sea's hem to alpine crest, in desert, steppe, forest and jungle, hunters chase a great variety of game. Their rifles and ammunition are expected to serve in harsh environs on specific targets.

For more than a century, hunters pushing past the ordinary have relied on Norma ammunition. It has taken the biggest animals on earth at distances measured in feet. And it has reached with precision to claim small animals far, far away. The most accomplished sportsmen have tested Norma cartridges on the range and in grueling conditions afield. No matter where you hunt, there's a Norma load for your rifle and the game at hand. In fact, there are probably several – all proven on hunts like these:

NORMA, NO BOUNDARIES...

EUROPE

MOOSE: "'There!' Amund knew the sound, faint as the tick of a leaf on water, but distinctive. We hurried, leaping deadfalls and slash. The last quarter mile, we throttled our step – though we couldn't count on the bull standing much longer. I moved ahead, timing footfalls with the dog's ringing bark. Closing, I eased the rifle up alongside a spruce. Nothing. Then, like a picture puzzle that suddenly makes sense, an ear twitched. A paddle blinked through a slit. The bull's neck vanished when the dot bounced in recoil. The drum-roll of hoof-beats faded as I dashed forward. The bull lay quiet, felled by the softnose bullet."

IBEX: "I spied the rams, five of them, jousting under an oak. Joaquin and Jose-Manuel hurried me to an outcrop and threw a jacket on it. "Much too far," I said. "Let me stalk them." I pointed to a saddle below. "I'll shoot from there." The consensus, swift and unequivocal, was that I'd never make it.

'I must try.'

They shrugged.

I lost elevation quickly, easing from one ledge to another. Rocks and scattered pines offered just enough cover. Sling tight, I squirmed atop the saddle on my belly, the rifle on my pack in front.

Swatches of red, white, black and gray winked behind brush in the bottom. The gray cape gave the big ram away. As he stepped clear I crushed the trigger. The ram collapsed without a quiver. Four red ibex dashed away, like so many fish darting up a stream. I climbed down and stood over him.

Joaquin arrived, grinning. "Grande y bonito," he said as I shouldered horns and hide for the climb out to Bel, where this man had been born. It seemed, at best, an understatement."

WILD BOAR: "The beaters lined up as an infantry regiment and sifted into the forest. They took braided paths through thickets and swamps. My companions rolled some boars; others escaped.

Pigs run fast, and they're seldom visible for long. Oaks. beeches and cultivated pines snare many bullets. With no-fire zones to front and sides, a shot can come and go in a split second!

I got one chance at a boar that dashed into an alley. He stopped. I aimed. He vanished. I recalled a trio of more cooperative pigs – in Austria – that paused briefly a long rifle-shot away. I found a couple of alleys through the trees and killed all three with three bullets from my 9.3x62."

AFRICA

BUFFALO: "Ten yards. The nearest bull crashes off, the great sweep of his horn slicing a shaft of sun. They're gone in a heartbeat.
"Come!" My companion is sprinting. We needn't speak; these buffalo must cross an open patch.

They slow under an amber sky, single-file now. "The far left." I slip past him, belly to hill's crest. The buffalo steps clear. I crush the last ounce from the trigger. The beast stumbles. It recovers and runs, head low and tilted. The left shoulder is useless. In a wide arc he gallops, three other bulls at his side. He falls behind as my bolt grabs a solid. The .375 swings and fires as the wire passes the shoulder. Both front legs yield. He skids on his nose, dust red in late sun, the other bulls thundering off into the coming night."

LEOPARD: "One tracker turns. Something about the shadow on grass is new. He looks again and yelps. I tear through thorn toward him. Still, only the cat's hesitation spares the boy. I fire as if at a grouse. My bullet smashes both shoulders. An orange

blur rockets from the grass. I cycle the bolt, pressure the trigger. But strangely, all is still. The leopard lies 11 paces from the muzzle."

ELAND: "Eland are always looking at you. Hours after you've tired of trailing them through thick and dusty thorn, just when you've decided to turn back, an eland's eye will appear in a hole in the thicket. You'll have no shot. The eland will move off. A big group will leave dust hanging over the bush as hooves drum dully into the distance. The eland will swing into a mile-eating trot. You are now, for some hours, beaten.

You must be in good physical shape to find and shoot eland. Often you must crawl. One-on-one eland stalking, when your rifle oozes sand and thorns bloody your knees, when your thigh muscles howl for relief and the sun bakes your neck – for this price you should get a shot. But there's no guarantee."

NORTH AMERICA

PRONGHORN: "Even in heavily hunted areas, some pronghorn bucks survive. They travel in dry washes and slip low into sagebrush. Some have taken to adjacent forests, where hunters don't look. In Wyoming, where pronghorns may still outnumber people, I once climbed a hill above a plain, hard-hit by riflemen early that day. From the shadows of boulders I spied a herd of pronghorn. Behind them a buck lifted his head. I was astonished at the long, thick horns! Prone, my sling taut, I held just over his back. The first bullet from my .280 flew high, the second struck spot on. This buck was the best to fall in that unit that season, fell within earshot of rifle fire that had laid low a dozen bucks hours earlier. Good luck can be a short walk away – if you walk to an unlikely place!"

BLACK BEAR: "My guide looked at my .30-30 and warned that bears have dense hair that absorbs blood. "If you don't kill 'em right away, bears will lose you in the thickets." And cover favored by black bears can also hold the more dangerous browns (grizzlies).

I promised to choose my shots carefully. My chance came late on a dark afternoon as two black bears ghosted across a clearing. We bellied into tall grass, to shrink the distance to 80 yards. Just shy of that goal, the wind switched. I knelt, aimed and sent a softpoint into the armpit of the big bear as it wheeled toward the alders.

While black bears can be taken handily with cartridges of modest power, many Alaskan guides advise rounds as big as the .375. "Nobody ever killed an animal too dead."

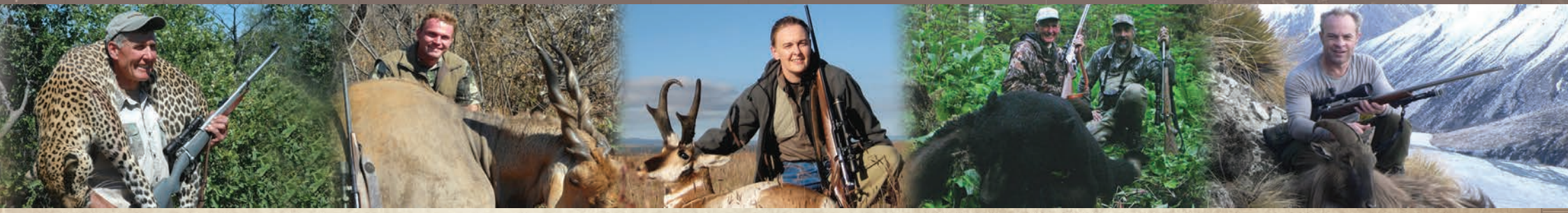
NEW ZEALAND

TAHR: "The hill beats us. We've turned, exhausted, when my partner spots a tahr. It is a bull, high across the Karangarua. We descend in a rush, ford thigh-deep glacier melt, scramble up the other side. The plummeting sun is already red. We climb hard and fast.

The tahr has moved down. In the lead, I almost miss him. "There!" My partner points.

The shot comes quickly, at 70 steps, as the bull bounds off a rock. Not the long deliberate try I've imagined. But I take it, crosswire kissing the shoulder. At the crack, the tahr tumbles.

The Karangarua thunders on without comment, beneath peaks orange with alpen-glow."



NO MATTER WHERE YOU HUNT ~ NORMA HAS YOUR BACK!

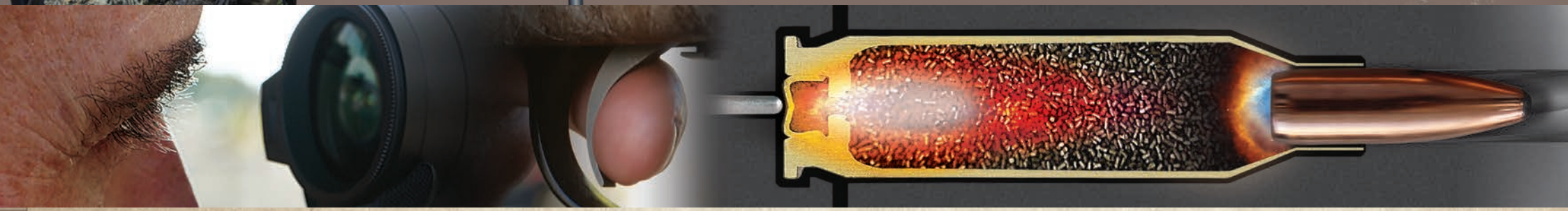
WHEN THE SHOT GOES OFF … THE LONG SECOND

As a bullet leaves your rifle, it begins to drop at an accelerating rate of 32.16 feet per second per second. But under normal shooting conditions, few bullets stay aloft for an entire second.

Bullet speed doesn't affect gravity; it simply determines the reach of the bullet's arc over a given period.

If you dropped a bullet from your fingers at the same time a bullet was fired horizontally from a rifle the same distance above the earth, the two bullets would come to rest at very nearly the same time.

Many shooters have been bamboozled into thinking a bullet rises above the line of bore



After the trigger is pulled, it takes around 0.005 seconds before the firing pin reaches the primer.

The pin makes a spherical imprint in the primer, and fires it … the cartridge is pushed forward by approx. 0.1 mm at the same time.

Very hot gases and glowing particles splash through the flash hole of the case. The powder ignites.

Increasing pressure pushes the bullet forward. When reaching maximum pressure, the bullet's speed has reached approximately 300 m/s. From the firing of the primer it takes 0.0015-0.002 seconds until the bullet exits the muzzle.

during its flight. It does not. Sight-line is not parallel to bore-line; the two converge. Sight-line dips below bore-line and a bullet's arc. Sight-line never meets bore-line again, as both are straight. But the bullet's downward trajectory is steeper than sight-line's angle, and the two paths cross a second time.

Sighting in or zeroing a rifle, you adjust the sight so that second intersection occurs at a distance you choose.

For the full article on Interior and Exterior Ballistics visit *www.norma.cc* and *www.norma-usa.com*

When the bullet leaves the muzzle, the hot gases surround and overtake the bullet, continuing the acceleration for a few centimetres.

Because the barrel is always angled slightly upwards, the bullet's flight starts about 3-5 cm below the line of sight.

If shooting distance is much shorter or longer than expected, the hunter may hold high or low, or else adjust the sights accordingly.

When shooting within usual distances the bullet hits the target at the exact aiming point .

CHOOSE THE RIGHT NORMA HUNTING BULLET

Norma offers everything from the fast-expanding Plastic Point and the mushrooming Soft Point to a large selection of Oryx, Vulkan and Alaska bullets. Choose the projectile that best suits the particular quarry and your hunting conditions.

ORYX

Oryx belongs to the new generation of hunting bullets – where the core and jacket are bonded. The result is a bullet with new characteristics. A carefully engineered jacket, combined with a bonded core, yields a bullet that will not fragment even if heavy bone is hit, but will fully expand to a large diameter even when only soft tissue is encountered. A lot of hunters want a bullet that stays together and won't fragment when the animal is hit. Stringent jacket tolerances are the key to fine accuracy. The construction of the Oryx bullet allows a relatively thin jacket. Stringent demands on the material, measurement and weight combined with the construction and manufacturing process, ensures superior accuracy. Hunting small and medium sized game, or shots through soft tissue demand a rapid expansion bullet. The bonded construction works in effect, combined with the gilding metal jacket with a thin front wall. This thin jacket ensures an early expansion of the bullet.

VULKAN

The Vulkan was an evolution of the Norma Cup point handgun hunting ammunition. Effectively a hollow point, the thick folded over jacket walls at the nose of the bullet delay the explosive expansion of the bullets for several inches, and then, like the plastic point it expands violently. A locking ring is incorporated in the design to minimise jacket and core separation. Internal scoring guides the break up of the front half of the bullet into six major pieces. The bullet has found a particular following amongst wild boar hunters who want to ensure that the bullet has reached the lungs before expanding so as to minimise meat loss and yet guarantee a fast put down. Typically retained weights of the rear section (which holds together unlike the plastic point) is 55-65% depending on impact velocity The unique 'cup point' nose design means that no lead is exposed to get damaged in the magazine- an important feature of European hunting where rifles are loaded and unloaded several times a day as hunters move between stands. Bullets with exposed lead or pointed plastic tips soon have them bent or even knocked off. With the Vulkan the performance is going to be predictable no matter how often the round has been chambered.

ALASKA

The Norma Alaska is the result of a century of evolution of Paul Mauser's original expanding bullet designs. Given the level of technology in the 1880's when Mauser first introduced modern style ammunition with smokeless powder and jacketed bullets, production tolerances were decidedly 'sloppy' by current standards. Mauser and his team needed a bullet that would shoot just as well in a rifle with an oversized throat or a worn bore as in a new rifle made to minimum tolerances. The final step was to get the expansion rate appropriate for Scandinavian game- It needed to open reliably and not over-penetrate on moose to endanger the dog or other hunters in the line in the typical Scandinavian hunting style. At the same time, most hunters were actually hunting for food, and minimising meat damage was a real consideration. The thickness of the jacket walls has changed slowly over time to cope with higher modern velocities but one of the key points has been the use of pure lead for the core so that it doesn't fragment and contaminate the surrounding meat. In standard velocity cartridges like the 6,5x55, 308 Win., 30-06 and 9,3x62 with muzzle velocities below 2700fps the Alaska delivers outstanding accuracy and dependable performance with retained weights in the region of 70-85% depending on impact velocity.

PLASTIC POINT

A bullet designed for the most rapid 'knock down' of an animal possible. The bullet opens very quickly and fragments on passing through bone creating a plentiful supply of secondary projectiles for the maximum trauma possible. One might call it a 'varmint' bullet designed for big game, it is the perfect choice for hunters in areas where it is vital the animal does not move far after being hit. Of course, being quick opening and inclined to fragment penetration is limited. This is important when hunting in densely populated areas or on driven hunts where there are people or property beyond the game and it is important that there is a minimal chance of the bullet passing through the animal and also that a miss will break up on contact with a hard surface rather than ricochet. Retained bullet weight is typically 40-50% This is not the bullet for a serious trophy hunter who may be forced to take poor angle shots requiring a deep penetrating bullet or a meat hunter who expects to be able to 'eat right up to the bullet hole'.

SOLIDS

Reliable feeding, reliable ignition, and reliable straight line penetration from the bullet. The perfect bullet design for terminal performance on elephant may well be a tungsten wadcutter, but reliable feeding is just as important. The Norma Solids are designed to ensure reliable feeding in just about any make of rifle, including old, well worn ones. Being made from a proprietary brass alloy Norma Solids are guaranteed not to break up, turn or deviate. They will give straight line penetration through whatever they encounter. Like the African PH series of ammunition, this ammo is loaded under higher than normal standards of quality control to ensure absolute reliability.

KALAHARI

A plated copper bullet, the Kalahari is a premium bullet aimed at the trophy hunter for whom only the very best in terms of both accuracy and terminal performance will do. The bullet is designed to give rapid yet moderate expansion for a quick knock down effect and a high retained weight to give good penetration. The final performance is a knock down effect similar to the Vulkan and penetration slightly greater than the Oryx. The unique design and relatively light bullet weights make the Kalahari the flattest shooting ammo on the market out to 300m in their respective calibres. The proprietary plating reduces fouling to similar levels normally experienced with conventional jacketed bullets rather than the excessive amounts usually associated with pure copper bullets, and is easily cleaned without resorting to strong, erosive copper solvents.

NORMA'S BULLET COMPONENTS

Calibre 5,7 mm (.224") — Hunting


SOFT POINT
Weight 3,2 g/50 gr
Product # **20657011 (-2)***


SOFT POINT
Weight 3,4 g/53 gr
Product # **20657041**


ORYX
Weight 3,6 g/55 gr
Product # **20657131**


FULL METAL JACKET
Weight 3,6 g/55 gr
Product # **20657081 (-2)***


SOFT POINT
Weight 4,0 g/62 gr
Product # **20657051**

Calibre 6 mm (.243") — Hunting


FULL METAL JACKET
Weight 6,2 g/95 gr
Product # **20660701**


SOFT POINT
Weight 6,5 g/100 gr
Product # **20660031**


ORYX
Weight 6,5 g/100 gr
Product # **20660501**

Calibre 6 mm (.243") — Match


DIAMOND LINE
Weight 6,8 g/105 gr
Product # **10660162**

Calibre 6,5 mm (.264") — Match


BANSKYTTE/REKRUTT HP
Weight 6,5 g/100 gr
Product # **10665201**


GOLDEN TARGET HP
Weight 8,4 g/130 gr
Product # **10665091**

Calibre 6,5 mm (.264") — Match


DIAMOND LINE
Weight 8,4 g/130 gr
Product # **10665081**


HOLLOW POINT
Weight 6,5 g/100 gr
Product # **20665201**

Calibre 6,5 mm (.264") — Hunting


FULL METAL JACKET
Weight 7,8 g/120 gr
Product # **20665141**


ORYX
Weight 10,1 g/156 gr
Product # **20665241**


ALASKA
Weight 10,1 g/156 gr
Product # **20665321**


VULKAN
Weight 10,1 g/156 gr
Product # **20665351**

Calibre 270 (.270") — Hunting


FULL METAL JACKET
Weight 8,4 g/130 gr
Product # **20669311**


ORYX
Weight 9,7 g/150 gr
Product # **20669501**


VULKAN
Weight 10,1 g/156 gr
Product # **20669351**

Calibre 7 mm (.284") — Hunting


FULL METAL JACKET
Weight 9,7 g/150 gr
Product # **20670031**


ORYX
Weight 10,1 g/156 gr
Product # **20670041**


VULKAN
Weight 11,0 g/170 gr
Product # **20670061**

Calibre 7 mm (.284") — Hunting


ORYX
Weight 11,0 g/170 gr
Product # **20670051**

Calibre 30 (.308") — Match


DIAMOND LINE
Weight 10,9 g/168 gr
Product # **10676351**

Calibre 30 (.308") — Hunting


FULL METAL JACKET
Weight 9,7 g/150 gr
Product # **20676511 (-2)***


ORYX NEW
Weight 10,7 g/165 gr
Product # **20676165**


ALASKA
Weight 11,7 g/180 gr
Product # **20676481**


VULKAN
Weight 11,7 g/180 gr
Product # **20676531**


ORYX
Weight 11,7 g/180 gr
Product # **20676441**

Calibre 30 (.308") — Hunting


ORYX
Weight 13,0 g/200 gr
Product # **20676391**

Calibre 8 mm (.323") — Hunting


FULL METAL JACKET
Weight 8,0 g/123 gr
Product # **20680141**


ORYX
Weight 12,7 g/196 gr
Product # **20680011**


ALASKA
Weight 12,7 g/196 gr
Product # **20680031**

Calibre 8 mm (.323") — Hunting


VULKAN
Weight 12,7 g/196 gr
Product # **20680201**

Calibre 338 (.338") — Hunting


FULL METAL JACKET
Weight 14,6 g/225 gr
Product # **20686101**


ORYX
Weight 14,9 g/230 gr
Product # **20686161**
50 bullets/box

Calibre 358 (.358") — Hunting


ORYX
Weight 16,2 g/250 gr
Product # **20690071**
50 bullets/box

Calibre 9,3 mm (.366") — Hunting


FULL METAL JACKET
Weight 15,0 g/232 gr
Product # **20693061**


VULKAN
Weight 15,0 g/232 gr
Product # **20693051**

ORYX
Weight 15,0 g/232 gr
Product # **20693071**

ORYX
Weight 18,5 g/285 gr
Product # **20693081**
50 bullets/box

ALASKA
Weight 18,5 g/285 gr
Product # **20693161**
50 bullets/box

ORYX
Weight 21,1 g/325 gr
Product # **20693121**
50 bullets/box

Calibre 375 (.375") — Hunting

ORYX
Weight 19,4 g/300 gr
Product # **20695071**
50 bullets/box

STANDARD = 100 BULLETS/BOX (-2)* = PACKED 2X500 BULLETS/BOX.

“NORMA‘S BRASS IS NOT JUST GOOD, IT‘S EXCEPTIONAL.” ~ QUOTATION FROM A US AMMUNITION PRODUCER.

Norma products are known worldwide for high quality. Cartridge cases are an important factor in this reputation. Superior quality ensures a long life and many reloads. Norma cases are made of the best possible raw materials with the narrowest tolerances, and they deliver accuracy round after round.

The case neck is annealed to become softer. This prevents gas leaks and enables the case to hold the bullet firmly for at least 10 years without cracking as a result of aging material.

Further down on the case body, the hardness increases to avoid unnecessary stretching. If it is too hard, it would bring the risk of cracks.

Furthest down, around the primer pocket, the brass should be firm. Here, the hardness is nearly twice that of around the neck.
The structure of the material reveals the hardness. During processing the large, soft grains are broken down into smaller ones, which makes for a harder material. At the annealing, small grains become bigger and the hardness decreases.

The Norma control stations always verify the correct weight, volume and exact dimensions to achieve the highest possible quality.

Competitive shooting and reliable hunting ammunition demand the tightest tolerances.

To manufacture the world’s best cases, it is essential that all stages be managed carefully, as for example punching the flash-hole dead centre in the primer pocket.

NORMA'S BRASS CASE COMPONENTS

CALIBRE	PRODUCT#
NORMA BRASS CASES	
17 Rem. NEW	# 20243011
204 Ruger	# 20255101
5,6x52R	# 20256041
220 Swift	# 20257011
221 Rem. Fireball NEW	# 20256026
300 AAC Blackout NEW	# 20275061
222 Rem.	# 20257111
223 Rem.	# 20257211
22-250 Rem.	# 20257311
22 PPC USA NEW	# 10257101
243 Win.	# 20260011
6 PPC USA NEW	# 10260101
6mm Norma BR	# 10260151
6mm XC	# 10260181

CALIBRE	PRODUCT#
25-06	# 20264111
6,5-284	# 20265281
6,5 Jap.	# 20265311
6,5 Carcano	# 20265351
6,5x54 MS	# 20265451
6,5 Creedmoor NEW	# 20265131
6,5 Grendel NEW	# 20265111
6,5x55	# 20265511
260 Rem.	# 20266021
264 Win. Mag.	# 20268021
270 Win.	# 20269011
270 WSM	# 20269071
7x57	# 20270011
7x57R	# 20270041
7x61 Super	# 20270111
7x64	# 20270121

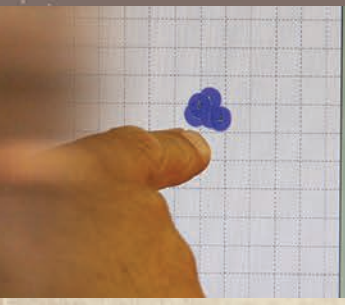
CALIBRE	PRODUCT#
7x65R	# 20270181
7mm Rem. Mag.	# 20270211
7mm RUM NEW	# 20270251
7mm Blaser NEW	# 20270451
7mm-08 Rem.	# 20270221
280 Rem.	# 20270501
7,5x55 Swiss	# 20275111
300 Norma Mag.	# 20275611
300 SAUM	# 20276111
300 RUM NEW	# 20276861
300 Blaser Mag. NEW	# 20276821
308 Win.	# 20276231
7,62x54R	# 20276341
308 Norma Mag.	# 20276371
30-06	# 20276401
300 H&H	# 20276531

CALIBRE	PRODUCT#
300 Win. Mag.	# 20276661
300 WSM	# 20276761
7,65 Arg.	# 20277011
7,7 Jap.	# 20277211
8x57JS	# 20280011
8x57 JRS	# 20280141
338 Win. Mag.	# 10285071
338 Lapua Mag.	# 10285201
338 Norma Mag.	# 20285201
338 Blaser Mag. NEW	# 20285251
358 Norma Mag.	# 20290011
35 Whelen	# 20290021
9,3x57	# 20293011
9,3x62	# 20293111
9,3x74R	# 20293211
375 H&H Mag.	# 20295011

CALIBRE	PRODUCT#
375 Blaser Mag. NEW	# 20295211
375 Flanged Mag. NE	# 20295151
404 Rimless NE	# 20210431
416 Rigby	# 20210601
416 Taylor	# 20210671
416 Rem. Mag.	# 20210691
500/416 NE	# 20210701
45 Cylindrical	# 20211231
45-120	# 20211251
450 Rigby Rimless	# 20211401
458 Win.	# 20211551
458 Lott	# 20211571
470 NE	# 20211631
500 Jeffery	# 20213151
500 NE	# 20213001
505 Magnum Gibbs	# 20213101

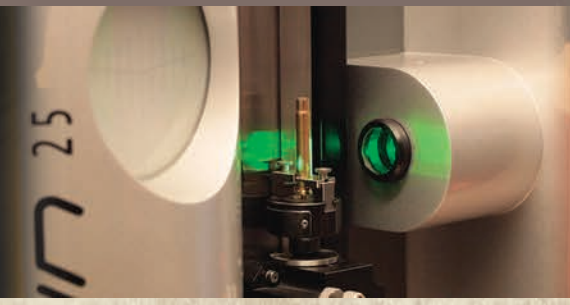
CALIBRE	PRODUCT#
NORMA CASES FOR THE WEATHERBY MAGNUM	
224 Wby. Mag.	# 20257401
240 Wby. Mag.	# 20260201
257 Wby. Mag.	# 20265021
270 Wby. Mag.	# 20269121
7 mm Wby. Mag.	# 20270321
300 Wby. Mag.	# 20276601
30-378 Wby. Mag.	# 20276771
338-06 Wby. Mag.	# 20285111
338-378 Wby. Mag.	# 20285161
340 Wby. Mag.	# 20286021
375 Wby. Mag.	# 20295131
378 Wby. Mag.	# 20295121
416 Wby. Mag.	# 20210651
460 Wby. Mag.	# 20211601

NORMA UNPRIMED CASES ARE PACKED IN BOXES OF 50 OR 100 EACH.



The fact that many well-known ammunition manufacturers all over the world load their own ammunition using Norma-made cases is only one of many pointers to superior quality.

The choice of raw materials and the numerous checks of weight and dimensions during manufacture guarantee high quality.



Case inspection for quality.

NORMA POWDERS

The shooter using Norma powder can safely trust that loading data, pressure, velocity and accuracy are maintained at the same high level from lot to lot. A flexible range of powders offers the handloader many opportunities to load the best possible cartridges in any calibre choice.

NORMA 200 POWDER

Our fastest-burning propellant is suitable for smaller cartridges such as the 222 Remington and 22 Hornet.

It can also be used to shoot lightweight, low velocity bullets in medium calibres such as the 308 Win.

500 g/canister.
Product # 20932005

NORMA 201 POWDER

This is very suitable for calibres with small case volume in relation to the bore size, such as 9,3x57 and 45-70. It's also the right choice for shooting lightweight bullets in medium-sized cases such as the 30-06.

500 g/canister.
Product # 20932015

NORMA 202 POWDER

Specially developed to provide maximum performance in the 308 Winchester, 202 is a very useful powder for cases with medium capacity compared to calibre, such as the 8x57, 9,3x62 and 9,3x74R.

500 g/canister.
Product # 20932025

NORMA 203B POWDER

Specifications for 203B differ slightly from the previous 203 powder.

It is flexible, and is useful from 22-250 to 358 Norma Mag. It is very suitable for 6 mm Norma BR and 308 Winchester loaded with heavier bullets.

500 g/canister.
Product # 20932035

NORMA 204 POWDER

A slow-burning propellant, 204 provides good performance and quite good accuracy in calibres such as 6,5x55 and 30-06.

500 g/canister.
Product # 20932045

NORMA MRP POWDER

A very flexible magnum powder, MRP is suitable for calibres with relatively large case volume in relation to the calibre.

It has been well-known for many years as a high performance powder in all magnum calibres.

500 g/canister.
Product # 20932155

NORMA 217 POWDER

This is a very flexible magnum powder, suitable where there is relatively large case volume in relation to the bore size. It has been well-known for many years as a high performance powder in all magnum calibres.

500 g/canister.
Product # 20932175

NORMA URP POWDER

A high-energy, mid-range propellant, URP is an excellent choice for medium-sized cartridges such as 7x64 and 30-06.

500 g/canister.
Product # 20932195

NORMA MATCH POWDER 1211

500 g/canister. Product # 10932115

NORMA MATCH POWDER 1214

500 g/canister. Product # 10932145

Reloading data for sports and hunting cartridges are available at www.norma.cc or in Norma's Reloading Manual. Please note that for the match powders 1211 and 1214 data may be found only on the cans.

THE NORMA RELOADING MANUAL

Expanded Edition

The *Norma Reloading Manual* is a must for the keen handloader. It is full of history, good advice and loads using Norma bullets and powders. It ought to be on every loading bench.

Every hunter and shooter can always learn something new in the steady search for the best possible load for his particular needs.

norma® INTRODUCING OUR COMPLETE AMMUNITION LINE

AMERICAN PH

NORMA PH

JAKTMATCH

COMPETITION LINE

NORMA SOLIDS

AFRICAN PH

NORMA PH


norma
Professional Hunter
norma
Professional Hunter
Professional Hunter
norma

The Professional Hunter ammunition line up starts with the renown Norma brass cases, precision manufactured for superior accuracy, then optimum powder charges for maximum ballistic performance and combined with bullets specifically selected for game pursued.The components are meticulously loaded under the industries‘ most rigid standards and precision inspected to insure proper bullet seating and primer pocket alignment. End result? Norma PH ammunition – the Professionals choice.“

Norma‘s superior reputation is worldwide and component cases are a major reason. These superior cases are manufactured from the best raw materials available, and to exact tolerances. The case head is annealed to soften the neck to prevent gas leakage and insure maximum shelf life for seating bullets! They are meticulously inspected to insure accuracy and reloadability round after round.

Norma Powders are selected and blended to give maximum ballistic performance, not just in our factory loads but in the products available to reloaders as well! The shooter using Norma powder can safely trust that loading data, pressure, velocity and accuracy are maintained at the same high level from lot to lot. Norma‘s flexible range of powders offers the hand loader the opportunity to load the highest quality and maximum range of cartridges available.

For more than a century, the golden rule at Norma has been quality and precision. This continues today and can be found in precision bullets with gilded metal jackets and bonded cores. This has given Norma a leading position in bullet performance.The reason is simple- from selection of raw materials, through casting and jacketing -precision and inspection are paramount.

A hunter or match participant can rely on Norma‘s selection of products to deliver the results.

Professional Hunter

AMERICAN PH


norma USA
Professional Hunter
LARGE GAME
20 CARTRIDGES · CARTOUCHES
norma precision ammunition
MEDIUM GAME
20 CARTRIDGES · CARTOUCHES
norma precision ammunition
AMERICAN PH
WARNING: Keep out of the reach of children.
ATTENTION: Garder hors de la portée des enfants

Norma Precision, that defines the quality of components and loading selected for Norma's American PH line-up.

Production at Norma starts with the highest quality brass cases available in the industry, combines that with Norma powder and bullets specifically selected for North American big game!

Norma's tried and true Oryx bonded bullet– for max penetration and near 100% weight retention.

To insure perfect mushrooming, the Oryx has a thin forward Jacket with internal splitting zones and a thicker rear jacket to insure high residual weight after impact.The Oryx has rapid expansion, excellent penetration and high energy transfer. Perfect for the North American Big Game hunter!

The lead free Kalahari–a lighter bullet that is designed with higher velocities for a flatter long range trajectory.

Loaded under the strictest standards , this unique bullet is loaded with selected lots of powder to insure the highest velocity for flatter trajectory. It has the highest ballistic coefficient possible and lowest wind drift achievable. Bullet expansion is controlled and restricted to insure maximum wounding effect and guaranteeing deep penetration. Kalahari sets the standard for ammunition used where challenging environments and long shots are required!

Norma Precision–the right ammunition for the Professional Hunter.

Professional Hunter

BALLISTIC DATA - HUNTING AMMUNITION

	BULLET TYPE / BULLET WEIGHT g/gr / PRODUCT NUMBER	BALLISTIC COEFFICIENT	VELOCITY METERS PER SECOND V_0	V_{100}	V_{200}	V_{300}	ENERGY IN JOULES E_0	E_{100}	E_{200}	E_{300}	ZERO RANGE, METERS	HEIGHT OF TRAJECTORY ABOVE LINE OF SIGHT IF SIGHTED IN AT ⊕ YARDS. FOR SIGHTS 40 MM ABOVE BORE 50	80	100	150	200	300	WIND DRIFT IN MM FOR A 5 M/S CROSS WIND 100	200	300
 17 REM. 	NEW V-MAX										80	-1	⊕	3	-7	-42	-215			
	1,3 g/20 gr	0,185	1280	1065	882	721	1065	738	506	3383	100	-11	-2	⊕	-11	-48	-223	38	164	400
	# 20**143022**										150	-7	4	7	⊕	-33	-202			
											200	1	17	24	25	⊕	-152			
 204 RUGER 	NEW V-MAX										80	-1	⊕	2	-8	-43	-210			
	2,6 g/29 gr	0,210	1250	1063	900	756	2032	1470	1055	743	100	-11	-2	⊕	-11	-48	-218	34	145	352
	# 20**156502**										150	-7	4	7	⊕	-33	-196			
											200	1	17	24	25	⊕	-146			
	V-MAX										80	-7	⊕	-1	-26	-90	-365			
	2,6 g/40 gr	0,200	1050	881	732	598	1434	1010	697	465	100	-7	1	⊕	-25	-88	-362	44	190	470
	# 20**157052**										150	2	14	17	⊕	-55	-312			
											200	15	36	44	41	⊕	-230			
	SOFT POINT										80	-6	⊕	-3	-38	-121	-476			
	3,2 g/50 gr	0,185	975	803	650	516	1522	1031	677	426	100	-4	2	⊕	-34	-115	-467	53	232	583
	# 20**157112**										150	7	21	23	⊕	-70	-399			
											200	24	48	57	52	⊕	-295			
	ORYX										80	-5	⊕	-4	-46	-140	-539			
 222 REM.	3,6 g/55 gr	0,185	930	764	616	487	1540	1038	675	423	100	-3	4	⊕	-40	-131	-526	56	248	624
	# 20**157042**										150	10	25	26	⊕	-78	-447			
											200	30	56	66	59	⊕	-330			
	FULL METAL JACKET										80	-3	⊕	-7	-59	-171	-628			
	3,6 g/55 gr	0,209	850	710	584	473	1301	907	613	403	100	0	6	⊕	-49	-157	-608	56	244	609
	# 20**157222**										150	17	32	33	⊕	-92	-509			
											200	40	69	79	69	⊕	-371			
	SOFT POINT										80	-4	⊕	-6	-52	-153	-566			
	4,0 g/62 gr	0,214	880	740	613	500	1549	1094	751	501	100	-1	5	⊕	-44	-142	-549	52	227	562
	# 20**157162**										150	13	28	29	⊕	-83	-462			
											200	34	61	71	62	⊕	-337			
	V-MAX										80	-8	⊕	1	-17	-66	-288			
	2,6 g/40 gr	0,200	1140	960	802	661	1690	1198	836	567	100	-9	-1	⊕	-18	-68	-290	40	172	420
	# 20**157382**										150	-3	9	12	⊕	-44	-254			
											200	8	27	34	33	⊕	-189			
	V-MAX										80	-8	⊕	0	-22	-77	-310			
	3,2 g/50 gr	0,242	1065	923	794	677	1816	1362	1009	734	100	-8	0	⊕	-21	-76	-309	35	150	363
	# 20**157392**										150	0	12	14	⊕	-48	-267			
 223 REM.											200	12	31	38	36	⊕	-195			
	SOFT POINT										80	-6	⊕	-2	-33	-104	-396			
	3,4 g/53 gr	0,237	980	843	720	607	1633	1210	881	626	100	-5	2	⊕	-29	-99	-390	40	172	418
	# 20**157172**										150	5	17	20	⊕	-60	-331			
											200	20	41	50	45	⊕	-241			
	ORYX										80	20	⊕	-4	-43	-131	-509			
	3,6 g/55 gr	0,185	950	781	631	500	1607	1087	710	446	100	-4	3	⊕	-37	-123	-498	54	240	604
	# 20**157192**										150	9	23	25	⊕	-74	-424			
											200	27	52	62	56	⊕	-313			
	V-MAX										80	-9	⊕	1	-15	-60	-258			
 22-250 REM.	3,2 g/50 gr	0,242	1135	985	851	729	2062	1552	1158	850	100	-9	-1	⊕	-16	-62	-261	33	139	334
	# 20**157312**										150	-4	8	11	⊕	-40	-228			
											200	7	24	31	30	⊕	-168			

BALLISTIC DATA - HUNTING AMMUNITION

	BULLET TYPE BULLET WEIGHT g/gr PRODUCT NUMBER	BALLISTIC COEFFICIENT	VELOCITY METERS PER SECOND V_0	V_{100}	V_{200}	V_{300}	ENERGY IN JOULES E_0	E_{100}	E_{200}	E_{300}	ZERO RANGE, METERS	HEIGHT OF TRAJECTORY ABOVE LINE OF SIGHT IF SIGHTED IN AT ⊕ YARDS. FOR SIGHTS 40 MM ABOVE BORE 50	80	100	150	200	300	WIND DRIFT IN MM FOR A 5 M/S CROSS WIND 100	200	300
 22-250 REM.	SOFT POINT										80	-9	⊕	1	-16	-62	-265			
	3,4 g/53 gr	0,237	1130	977	840	716	2172	1623	1201	873	100	-9	-1	⊕	-17	-64	-267	34	143	345
	# 20**15733**2										150	-3	8	11	⊕	-41	-233			
											200	7	25	32	31	⊕	-171			
	ORYX										80	-8	⊕	0	-22	-80	-338			
	3,6 g/55 gr	0,185	1100	912	747	602	2155	1481	995	644	100	-8	0	⊕	-22	-80	-338	45	196	488
	# 20**15734**2										150	1	12	15	⊕	-51	-294			
											200	12	32	40	38	⊕	-218			
 220 SWIFT	SOFT POINT										80	-9	⊕	2	-11	-52	-247			
	3.2 g/50 gr	0,185	1225	1018	840	684	2402	1659	1130	748	100	-10	-2	⊕	-14	-56	-253	40	173	425
	# 20**15701**2										150	-7	6	9	⊕	-38	-225			
											200	4	21	28	28	⊕	-169			
	ORYX										80	-9	⊕	1	-17	-68	-298			
	3,6 g/55 gr	0,185	1150	955	785	635	2355	1623	1098	718	100	-9	-1	⊕	-18	-69	-300	43	186	459
	# 20**15703**2										150	-3	9	12	⊕	-45	-263			
											200	8	27	35	34	⊕	-196			
 5,6X52 R	SOFT POINT										80	-4	⊕	-6	-53	-151	-541			
	4,6 g/71 gr	0,268	850	739	637	544	1662	1258	934	681	100	-1	5	⊕	-44	-140	-524	43	183	444
	# 20**15604**2										150	13	28	29	⊕	-81	-436			
											200	34	61	70	61	⊕	-314			
 6 MM NORMA BR	ORYX										80	-3	⊕	-7	-59	-167	-591			
	6,5 g/100 gr	0,257	830	717	612	518	2240	1669	1219	872	100	1	6	⊕	-49	-153	-570	46	199	485
	# 20**16025**2										150	17	31	32	⊕	-88	-473			
											200	39	67	76	66	⊕	-341			
 6XC	NOSLER BST										80	-5	⊕	-4	-39	-114	-405			
	6,2 g/95 gr	0,379	900	818	741	668	2496	2062	1690	1373	100	-3	3	⊕	-33	-107	-394	27	114	270
	# 20**16021**2										150	8	21	22	⊕	-63	-327			
											200	23	46	54	47	⊕	-233			
	ORYX										80	-5	⊕	-4	-43	-130	-475			
	6,5 g/100 gr	0,257	900	781	671	571	2634	1982	1465	1060	100	-3	3	⊕	-37	-121	-463	41	176	429
	# 20**16022**2										150	9	23	25	⊕	-72	-388			
											200	27	52	61	54	⊕	-281			
 243 WIN.	V-MAX										80	-9	⊕	2	-9	-46	-213			
	3,8 g/58 gr	0,250	1200	1047	911	787	2701	2056	1556	1163	100	-10	-2	⊕	-12	-50	-219	30	125	299
	# 20**16035**2										150	-6	5	8	⊕	-34	-195			
											200	2	19	25	25	⊕	-144			
	V-MAX										80	-7	⊕	-1	-24	-80	-306			
	4,9 g/75 gr	0,330	1015	913	818	730	2505	2026	1628	1295	100	-7	1	⊕	-23	-78	-304	27	113	267
	# 20**16004**2										150	1	13	15	⊕	-48	-258			
											200	13	32	39	36	⊕	-186			
	SOFT POINT										80	-5	⊕	-4	-43	-127	-464			
	6,5 g/100 gr	0,257	910	790	680	579	2693	2028	1502	1088	100	-3	3	⊕	-36	-119	-452	40	174	422
	# 20**16003**2										150	9	23	24	⊕	-70	-379			
											200	27	51	59	53	⊕	-274			
	ORYX										80	-4	⊕	-5	-48	-140	-507			
	6,5 g/100 gr	0,257	880	762	654	556	2510	1884	1388	1001	100	-2	4	⊕	-41	-130	-492	42	182	443
	# 20**16008**2										150	12	26	27	⊕	-76	-411			
											200	31	56	65	57	⊕	-297			

BALLISTIC DATA - HUNTING AMMUNITION

	BULLET TYPE / BULLET WEIGHT g/gr / PRODUCT NUMBER	BALLISTIC COEFFICIENT	VELOCITY METERS PER SECOND				ENERGY IN JOULES				ZERO RANGE, METERS	HEIGHT OF TRAJECTORY ABOVE LINE OF SIGHT IF SIGHTED IN AT ⊕ YARDS. FOR SIGHTS 40 MM ABOVE BORE						WIND DRIFT IN MM FOR A 5 M/S CROSS WIND		
			V_0	V_{100}	V_{200}	V_{300}	E_0	E_{100}	E_{200}	E_{300}		50	80	100	150	200	300	100	200	300
6,5 JAP.	ALASKA										80	6	⊕	-19	-124	-321	-1050			
	10,1 g/156 gr	0,326	630	553	483	421	2005	1545	1178	897	100	15	15	⊕	-96	-283	-989	54	228	544
	# 20**16532**2										150	47	66	64	⊕	-156	-798			
											200	86	128	141	117	⊕	-565			
6,5 CARC.	ALASKA										80	1	⊕	-13	-89	-236	-784			
	10,1 g/156 gr	0,326	710	627	551	481	2547	1989	1533	1170	100	8	10	⊕	-70	-211	-747	45	191	459
	# 20**16535**2										150	31	47	47	⊕	-118	-607			
											200	60	94	105	88	⊕	-431			
	NOSLER BST										80	-4	⊕	-5	-45	-127	-438			
	7,8 g/120 gr	0,430	860	789	722	658	2886	2431	2035	1691	100	-2	4	⊕	-37	-118	-424	26	106	250
	# 20**16522**2										150	11	24	25	⊕	-68	-349			
											200	28	51	59	51	⊕	-248			
	NOSLER PARTITION										80	-3	⊕	-6	-52	-144	-485			
	9,1 g/140 gr	0,467	820	757	696	638	3061	2606	2206	1855	100	0	5	⊕	-43	-132	-466	25	104	245
	# 20**16559**2										150	14	28	28	⊕	-75	-381			
											200	33	58	66	56	⊕	-269			
6,5X55	ALASKA										80	-1	⊕	-9	-70	-194	-670			
	10,1 g/156 gr	0,276	780	677	583	497	3074	2319	1717	1250	100	3	7	⊕	-57	-176	-643	47	202	490
	# 20**16552**2										150	22	38	38	⊕	-10	-529			
											200	47	78	88	75	⊕	-379			
	ORYX										80	-2	⊕	-8	-65	-176	-602			
	10,1 g/156 gr	0,348	780	698	621	550	3074	2463	1951	1527	100	2	7	⊕	-52	-161	-578	37	155	369
	# 20**16562**2										150	20	35	35	⊕	-91	-473			
											200	42	71	81	69	⊕	-336			
	VULKAN										80	-2	⊕	-8	-65	-178	-601			
	10,1 g/156 gr	0,354	780	700	624	554	3074	2473	1967	1548	100	3	7	⊕	-53	-161	-576	36	152	361
	# 20**16556**2										150	20	35	35	⊕	-117	-471			
											200	43	71	81	68	⊕	-334			
6,5-284 NORMA	ORYX										80	-4	⊕	-5	-49	-140	-485			
	10,1 g/156 gr	0,348	850	764	683	607	3650	2949	2359	1864	100	-1	4	⊕	-41	-129	-469	33	136	324
	# 20**16563**2										150	13	26	27	⊕	-74	-387			
											200	31	56	64	56	⊕	-276			
	V-MAX										80	-7	⊕	-1	-27	-87	-323			
	7,1 g/110 gr	0,370	980	891	808	729	3425	2831	2326	1895	100	-6	1	⊕	-25	-84	-319	25	104	246
	# 20**16940**2										150	2	15	17	⊕	-51	-269			
											200	15	35	42	38	⊕	-193			
	KALAHARI										80	-7	⊕	-2	-28	-89	-335			
	7,8 g/120 gr	0,314	990	885	788	679	3824	3055	2420	1894	100	-6	1	⊕	-25	-86	-331	29	122	293
	# 20**16900**2										150	2	15	17	⊕	-52	-280			
											200	16	36	43	39	⊕	-202			
270 WIN.	SOFT POINT										80	-6	⊕	-2	-31	-95	-349			
	8,4 g/130 gr	0,359	957	867	782	702	3848	3155	2569	2073	100	-5	2	⊕	-28	-91	-343	27	118	264
	# 20**16902**2										150	4	16	18	⊕	-55	-288			
											200	18	38	46	41	⊕	-207			
	ORYX										80	-4	⊕	-5	-46	-131	-451			
	9,7 g/150 gr	0,373	870	788	711	639	3673	3015	2455	1979	100	-1	4	⊕	-38	-121	-436	29	122	289
	# 20**16901**2										150	12	23	26	⊕	-69	-359			
											200	29	49	60	52	⊕	-255			

BALLISTIC DATA - HUNTING AMMUNITION

	BULLET TYPE / BULLET WEIGHT g/gr / PRODUCT NUMBER	BALLISTIC COEFFICIENT	VELOCITY METERS PER SECOND V_0	V_{100}	V_{200}	V_{300}	ENERGY IN JOULES E_0	E_{100}	E_{200}	E_{300}	ZERO RANGE, METERS	HEIGHT OF TRAJECTORY ABOVE LINE OF SIGHT IF SIGHTED IN AT ⊕ YARDS. FOR SIGHTS 40 MM ABOVE BORE 50	80	100	150	200	300	WIND DRIFT IN MM FOR A 5 M/S CROSS WIND 100	200	300
 270 WIN.	VULKAN										80	-5	⊕	-5	-45	-130	-458			
	10,1 g/156 gr	0,340	870	781	697	619	3824	3080	2456	1934	100	-3	4	⊕	-38	-121	-444	27	113	267
	# 20**169412**										150	10	24	25	⊕	-70	-369			
											200	28	52	60	53	⊕	-263			
	KALAHARI										80	-7	⊕	-1	-21	-72	-281			
	7,8 g/120 gr	0,314	1060	949	847	753	4384	3516	2801	2209	100	-7	1	⊕	-20	-71	-280	27	113	267
	# 20**169282**										150	0	11	14	⊕	-44	-239			
											200	11	29	36	33	⊕	-173			
 270 WSM	NOSLER BST										80	-6	⊕	-1	-25	-80	-296			
	8,4 g/130 gr	0,433	1000	922	849	779	4202	3573	3027	2551	100	-6	1	⊕	-23	-78	-292	20	86	200
	# 20**169252**										150	2	12	15	⊕	-48	-245			
											200	14	30	39	35	⊕	-175			
	ORYX										80	-5	⊕	-3	-33	-99	-357			
	9,7 g/150 gr	0,373	950	863	782	705	4379	3617	2968	2415	100	-4	2	⊕	-29	-94	-349	26	108	255
	# 20**169322**										150	6	16	19	⊕	-56	-291			
											200	20	37	47	42	⊕	-208			
 7X57 R	FULL METAL JACKET										80	-3	⊕	-7	-56	-154	-516			
	9,7 g/150 gr	0,441	805	739	676	616	3144	2649	2217	1842	100	1	5	⊕	-46	-140	-496	27	114	267
	# 20**170062**										150	16	30	30	⊕	-79	-405			
											200	36	62	70	60	⊕	-285			
	ORYX										80	-2	⊕	-8	-63	-172	-589			
	10,1 g/156 gr	0,330	795	708	627	551	3193	2533	1984	1534	100	2	6	⊕	-51	-157	-565	38	159	382
	# 20**170032**										150	19	33	34	⊕	-89	-463			
											200	41	69	78	67	⊕	-330			
 7X57	ORYX										80	-3	⊕	-7	-60	-166	-570			
	10,1 g/156 gr	0,330	805	717	635	559	3274	2600	2039	1579	100	1	6	⊕	-49	-152	-548	37	156	374
	# 20**170012**										150	18	32	33	⊕	-86	-450			
											200	39	67	76	65	⊕	-320			
 7MM-08 REM.	NOSLER BST										80	-4	⊕	-5	-43	-124	-424			
	9,1 g/140 gr	0,485	860	797	737	680	3367	2894	2475	2106	100	-2	4	⊕	-37	-115	-410	23	93	218
	# 20**170682**										150	10	23	24	⊕	-66	-337			
											200	27	50	57	50	⊕	-238			
	FULL METAL JACKET										80	-3	⊕	-6	-50	-139	-468			
	9,7 g/150 gr	0,441	840	772	707	646	3424	2892	2428	2024	100	0	5	⊕	-41	-127	-451	26	107	252
	# 20**170642**										150	14	25	27	⊕	-72	-369			
											200	32	53	64	54	⊕	-260			
	ORYX										80	-3	⊕	-6	-54	-152	-527			
	10,1 g/156 gr	0,330	830	741	657	579	3480	2771	2179	1691	100	-1	5	⊕	-45	-140	-508	28	120	287
	# 20**170632**										150	15	29	30	⊕	-80	-419			
 7X65 R											200	35	61	70	60	⊕	-299			
	PLASTIC POINT										80	-3	⊕	-7	-58	-162	-550			
	11,0 g/170 gr	0,373	800	722	649	580	3522	2872	2319	1853	100	1	6	⊕	-48	-148	-529	33	138	328
	# 20**170282**										150	17	31	32	⊕	-84	-434			
											200	38	65	74	63	⊕	-308			
	VULKAN										80	-3	⊕	-7	-58	-160	-547			
	11,0 g/170 gr	0,353	810	728	650	578	3610	2913	2326	1836	100	1	6	⊕	-47	-146	-526	34	144	343
	# 20**170292**										150	17	31	31	⊕	-83	-431			
											200	37	64	73	62	⊕	-306			

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	BULLET TYPE BULLET WEIGHT g/gr PRODUCT NUMBER	BALLISTIC COEFFICIENT	VELOCITY METERS PER SECOND				ENERGY IN JOULES				ZERO RANGE, METERS	HEIGHT OF TRAJECTORY ABOVE LINE OF SIGHT IF SIGHTED IN AT ⊕ YARDS. FOR SIGHTS 40 MM ABOVE BORE						WIND DRIFT IN MM FOR A 5 M/S CROSS WIND		
			V_0	V_{100}	V_{200}	V_{300}	E_0	E_{100}	E_{200}	E_{300}		50	80	100	150	200	300	100	200	300
7X65 R	ORYX										80	-3	⊕	-7	-59	-164	-565			
	11,0 g/170 gr	0,324	810	720	637	559	3610	2856	2231	1719	100	1	6	⊕	-48	-150	-544	37	158	379
	# 20**17022**2										150	17	32	32	⊕	-86	-447			
											200	39	66	75	64	⊕	-318			
	KALAHARI										80	-5	⊕	-3	-35	-105	-381			
	8,1 g/125 gr	0,315	954	844	749	661	3618	2884	2276	1773	100	-4	2	⊕	-30	-99	-372	31	130	310
	# 20**17098**2										150	6	19	20	⊕	-59	-311			
											200	21	42	50	44	⊕	-223			
280 REM.	ORYX										80	-4	⊕	-6	-50	-142	-496			
	10,1 g/156 gr	0,330	850	759	674	595	3650	2912	2297	1788	100	-1	4	⊕	-42	-131	-479	27	116	277
	# 20**17048**2										150	13	27	28	⊕	-76	-396			
											200	32	57	66	57	⊕	-282			
	VULKAN										80	-2	⊕	-8	-63	-172	-583			
	11,0 g/170 gr	0,353	790	709	632	561	3434	2764	2201	1733	100	2	6	⊕	-51	-156	-559	35	149	356
	# 20**17051**2										150	19	33	34	⊕	-89	-457			
											200	41	69	78	66	⊕	-325			
	PLASTIC POINT										80	-4	⊕	-6	-53	-148	-508			
	11,0 g/170 gr	0,373	825	746	671	601	3745	3062	2481	1989	100	-1	5	⊕	-44	-136	-490	31	132	313
	# 20**17060**2										150	14	28	29	⊕	-78	-403			
											200	33	59	68	58	⊕	-286			
	KALAHARI										80	-5	⊕	-3	-35	-105	-381			
	8,1 g/125 gr	0,315	945	844	749	661	3618	2884	2276	1773	100	-4	2	⊕	-30	-99	-372	31	130	310
	#20**17089**2										150	6	19	20	⊕	-59	-311			
											200	21	42	50	44	⊕	-223			
	NOSLER ACCUBOND										80	-5	⊕	-4	-38	-110	-381			
	9,1 g/140 gr	0,485	900	835	774	715	3687	3176	2725	2325	100	-3	3	⊕	-33	-103	-370	21	88	205
	# 20**17069**2										150	8	19	22	⊕	-60	-305			
											200	23	42	51	45	⊕	-216			
	ORYX										80	-4	⊕	-6	-50	-142	-496			
	10,1 g/156 gr	0,330	850	759	674	595	3650	2912	2297	1788	100	-1	4	⊕	-42	-131	-479	27	116	277
	# 20**17053**2										150	13	27	28	⊕	-76	-396			
7X64											200	32	57	66	57	⊕	-282			
	VULKAN										80	-3	⊕	-6	-53	-149	-513			
	11,0 g/170 gr	0,353	830	746	668	594	3791	3066	2454	1942	100	0	5	⊕	-44	-137	-495	33	139	330
	# 20**17018**2										150	14	28	29	⊕	-78	-407			
											200	34	60	68	59	⊕	-290			
	PLASTIC POINT										80	-3	⊕	-6	-52	-146	-501			
	11,0 g/170 gr	0,378	830	752	678	608	3791	3110	2529	2036	100	0	5	⊕	-43	-134	-483	31	129	305
	# 20**17019**2										150	14	28	29	⊕	-77	-397			
											200	33	59	67	58	⊕	-282			
	ORYX										80	-4	⊕	-6	-52	-148	-514			
	11,0 g/170 gr	0,324	840	749	663	583	3883	3083	2419	1872	100	-1	5	⊕	-43	-136	-497	35	150	359
	# 20**17020**2										150	14	28	29	⊕	-78	-410			
											200	34	59	68	59	⊕	-293			
7MM REM. MAG.	BARNES TSX										80	-6	⊕	-2	-31	-95	-345			
	9,1 g/140 gr	0,394	950	868	791	718	4108	3430	2847	2346	100	-5	2	⊕	-27	-91	-339	24	102	240
	# 20**17054**2										150	4	16	18	⊕	-54	-284			
											200	18	38	45	41	⊕	-203			

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BULLET TYPE / BULLET WEIGHT g/gr / PRODUCT NUMBER	BALLISTIC COEFFICIENT	VELOCITY METERS PER SECOND V_0	V_{100}	V_{200}	V_{300}	ENERGY IN JOULES E_0	E_{100}	E_{200}	E_{300}	ZERO RANGE, METERS	HEIGHT OF TRAJECTORY ABOVE LINE OF SIGHT IF SIGHTED IN AT ⊕ YARDS. FOR SIGHTS 40 MM ABOVE BORE 50	80	100	150	200	300	WIND DRIFT IN MM FOR A 5 M/S CROSS WIND 100	200	300
7MM REM. MAG.																			
SWIFT SCIROCCO										80	-7	⊕	-1	-26	-83	-302			
9,7 g/150 gr	0,536	965	904	845	789	4528	3970	3471	3024	100	-6	1	⊕	-24	-80	-298	17	72	166
# 20**17062**2										150	2	14	16	⊕	-48	-250			
										200	14	33	40	36	⊕	-178			
ORYX										80	-5	⊕	-4	-40	-119	-426			
10,1 g/156 gr	0,330	900	806	718	636	4092	3281	2605	2041	100	-3	3	⊕	-35	-112	-415	25	107	254
# 20**17047**2										150	9	22	23	⊕	-66	-345			
										200	25	48	56	49	⊕	-247			
KALAHARI										50	-7	⊕	-1	-25	-81	-309			
8,1 g/125 gr	0,315	1020	913	814	722	4257	3410	2712	2133	100	-6	1	⊕	-23	-79	-306	31	130	310
20**17099**2										150	2	13	16	⊕	-48	-259			
										200	14	33	40	36	⊕	-187			
VULKAN										80	-5	⊕	-4	-40	-117	-415			
11,0 g/170 gr	0,353	900	812	729	651	4457	3627	2925	2334	100	-3	3	⊕	-34	-109	-404	24	99	235
# 20**17024**2										150	-8	21	23	⊕	-64	-336			
										200	24	47	55	48	⊕	-240			
PLASTIC POINT										80	-5	⊕	-4	-39	-114	-405			
11,0 g/170 gr	0,378	900	818	740	666	4457	3677	3012	2444	100	-3	3	⊕	-33	-107	-394	22	92	217
# 20**17027**2										150	8	21	22	⊕	-63	-328			
										200	24	46	54	47	⊕	-233			
ORYX										80	-5	⊕	-5	-44	-129	-455			
11,0 g/170 gr	0,324	880	786	698	616	4261	3398	2680	2086	100	-2	4	⊕	-38	-120	-442	33	140	335
# 20**17023**2										150	10	24	25	⊕	-70	-367			
										200	28	52	60	52	⊕	-262			
7MM BLASER MAG.																			
ORYX										80	-6	⊕	-3	-36	-109	-396			
10,1 g/156 gr	0,330	925	829	740	657	4323	3476	2769	2179	100	-4	3	⊕	-32	-103	-386	30	128	305
# 20**17087**2										150	7	19	21	⊕	-61	-323			
										200	22	44	52	46	⊕	-232			
7,5X55 SWISS																			
ORYX										80	-3	⊕	-7	-55	-154	-529			
11,7 g/180 gr	0,354	820	737	659	586	3935	3181	2545	2013	100	0	5	⊕	-45	-141	-509	33	141	335
# 20**174722**										150	15	30	30	⊕	-81	-419			
										200	36	62	71	61	⊕	-297			
7.62X54R																			
ALASKA										80	-1	⊕	-10	-73	-199	-688			
11,7 g/180 gr	0,257	785	675	574	484	3606	2666	1929	1371	100	4	8	⊕	-58	-179	-660	50	217	529
# 20**17555**2										150	24	37	39	⊕	-102	-544			
										200	49	76	90	77	⊕	-391			
KALAHARI										80	-4	⊕	-5	-45	-130	-459			
9,7 g/150 gr	0,304	870	771	678	592	3673	2882	2231	1702	100	-2	4	⊕	-38	-120	-445	35	148	355
# 20**17505**2										150	11	24	25	⊕	-70	-369			
										200	29	52	60	52	⊕	-264			
308 WIN.																			
NOSLER BST										80	-5	⊕	-5	-44	-127	-437			
9,7 g/150 gr	0,435	860	790	724	661	3596	3037	2549	2124	100	-2	4	⊕	-37	-118	-423	25	105	246
# 20**17625**2										150	11	24	25	⊕	-68	-348			
										200	27	51	59	51	⊕	-246			
NEW ORYX										80	-4	⊕	-6	-52	-148	-514			
10,7g/165 gr	0,333	835	746	663	585	3728	2978	2351	1833	100	1	5	⊕	-45	-139	-503	31	132	314
# 20**17471**2										150	14	28	29	⊕	-78	-410			
										200	35	61	70	60	⊕	-294			

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BULLET TYPE / BULLET WEIGHT g/gr / PRODUCT NUMBER	BALLISTIC COEFFICIENT	VELOCITY METERS PER SECOND				ENERGY IN JOULES				ZERO RANGE, METERS	HEIGHT OF TRAJECTORY ABOVE LINE OF SIGHT IF SIGHTED IN AT ⊕ YARDS. FOR SIGHTS 40 MM ABOVE BORE						WIND DRIFT IN MM FOR A 5 M/S CROSS WIND		
		V_0	V_{100}	V_{200}	V_{300}	E_0	E_{100}	E_{200}	E_{300}		50	80	100	150	200	300	100	200	300
SWIFT A-FRAME										80	-4	⊕	-6	-53	-150	-515			
10,7 g/165 gr	0,367	823	743	667	596	3622	2951	2381	1901	100	-1	5	⊕	-44	-138	-496	32	135	320
# 20**176122**										150	14	28	29	⊕	-79	-408			
										200	34	60	69	59	⊕	-290			
PLASTIC POINT										80	-2	⊕	-8	-61	-167	-564			
11,7 g/180 gr	0,366	796	717	643	573	3708	3011	2420	1925	100	2	6	⊕	-49	-152	-541	34	142	337
# 20**176282**										150	18	32	33	⊕	-86	-443			
										200	39	67	79	64	⊕	-314			
NOSLER PARTITION										80	-3	⊕	-7	-57	-156	-520			
11,7 g/180 gr	0,474	796	734	676	621	3708	3160	2677	2253	100	1	6	⊕	-46	-142	-499	26	107	251
# 20**176352**										150	16	30	31	⊕	-80	-407			
										200	37	63	71	60	⊕	-286			
ALASKA										80	-2	⊕	-9	-68	-189	-660			
11,7 g/180 gr	0,257	796	685	583	492	3708	2746	1990	1415	100	-3	7	⊕	-55	-171	-634	49	212	519
# 20**176362**										150	21	36	37	⊕	-98	-524			
										200	45	75	86	73	⊕	-378			
VULKAN										80	-2	⊕	-8	-63	-174	-598			
11,7 g/180 gr	0,315	796	705	620	541	3708	2908	2250	1716	100	2	6	⊕	-51	-159	-574	39	168	403
# 20**176602**										150	19	34	34	⊕	-90	-472			
										200	42	70	79	68	⊕	-336			
ORYX										80	-3	⊕	-7	-60	-167	-568			
11,7 g/180 gr	0,354	796	715	638	567	3708	2989	2384	1879	100	2	6	⊕	-50	-153	-548	35	147	351
# 20**174732**										150	17	32	33	⊕	-87	-448			
										200	40	67	77	65	⊕	-319			
KALAHARI										80	-0.4	⊕	-0.4	-4.2	-12.2	-43.3			
9,7 g/150gr	0,304	910	808	713	624	4018	3166	2465	1891	100	-0.2	0.3	⊕	-3.5	-11.3	-42.1	34	143	344
# 20**175062**										150	0.9	2.2	2.4	⊕	-6.6	-35			
										200	2.6	4.9	5.7	5	⊕	-25.1			
NOSLER BST										80	-5	⊕	-4	-38	-112	-393			
9,7 g/150 gr	0,435	895	824	756	691	3895	3297	2776	2322	100	-3	3	⊕	-33	-105	-382	24	99	232
# 20**176542**										150	8	20	22	⊕	-61	-317			
										200	23	45	53	46	⊕	-225			
NEW **ORYX**										80	-5	⊕	-4	-39	-117	-422			
10,7 g/165 gr	0,338	900	807	720	639	4331	3483	2772	2180	100	-2	3	⊕	-36	-113	-417	31	132	314
# 20**174702**										150	8	21	23	⊕	-65	-343			
										200	26	49	57	49	⊕	-247			
NOSLER ACCUBOND										80	-2	⊕	-7	-54	-147	-487			
11,7 g/180 gr	0,507	815	757	701	648	3887	3352	2876	2454	100	1	5	⊕	-44	-134	-467	23	96	225
# 20**175632**										150	15	27	29	⊕	-75	-380			
										200	34	56	67	57	⊕	-267			
SWIFT A-FRAME										80	-4	⊕	-6	-52	-146	-500			
11,7 g/180 gr	0,400	823	749	680	613	3964	3286	2702	2202	100	-1	5	⊕	-43	-134	-482	29	123	290
# 20**175182**										150	14	28	29	⊕	-77	-396			
										200	33	59	67	58	⊕	-280			
ALASKA										80	-3	⊕	-7	-61	-171	-605			
11,7 g/180 gr	0,257	823	710	606	512	3964	2948	2148	1533	100	1	6	⊕	-49	-157	-583	47	202	493
# 20**176482**										150	18	32	33	⊕	-90	-484			
										200	40	68	78	68	⊕	-349			

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BULLET TYPE / BULLET WEIGHT g/gr / PRODUCT NUMBER	BALLISTIC COEFFICIENT	VELOCITY METERS PER SECOND				ENERGY IN JOULES				ZERO RANGE, METERS	HEIGHT OF TRAJECTORY ABOVE LINE OF SIGHT IF SIGHTED IN AT ⊕ YARDS. FOR SIGHTS 40 MM ABOVE BORE						WIND DRIFT IN MM FOR A 5 M/S CROSS WIND		
		V_0	V_{100}	V_{200}	V_{300}	E_0	E_{100}	E_{200}	E_{300}		50	80	100	150	200	300	100	200	300
30-06																			
NOSLER PARTITION										80	-3	⊕	-6	-51	-142	-478			
11,7 g/180 gr	0,474	823	761	701	644	3964	3386	2876	2427	100	0	5	⊕	-42	-130	-460	25	102	238
# 20**17649**2										150	14	27	28	⊕	-74	-376			
										200	32	57	65	56	⊕	-265			
PLASTIC POINT										80	-2	⊕	-7	-56	-154	-523			
11,7 g/180 gr	0,366	823	743	667	596	3964	3228	2603	2077	100	1	6	⊕	-46	-141	-503	32	135	321
# 20**17653**2										150	16	30	30	⊕	-80	-411			
										200	36	62	70	60	⊕	-292			
VULKAN										80	-2	⊕	-7	-58	-162	-554			
11,7 g/180 gr	0,315	823	730	643	563	3964	3119	2422	1854	100	1	6	⊕	-48	-147	-533	38	159	383
# 20**17659**2										150	17	31	32	⊕	-84	-438			
										200	38	65	74	63	⊕	-312			
ORYX										80	-3	⊕	-7	-57	-162	-569			
11,7 g/180 gr	0,354	823	722	628	541	3964	3048	2306	1715	100	0	5	⊕	-47	-149	-548	33	142	343
# 20**17474**2										150	-16	31	32	⊕	-86	-454			
										200	37	65	74	64	⊕	-326			
ORYX										80	-3	⊕	-7	-60	-167	-571			
13,0 g/200 gr	0,338	800	715	635	560	4162	3321	2618	2039	100	1	6	⊕	-49	-152	-549	36	154	368
# 20**17677**2										150	17	32	33	⊕	-87	-451			
										200	39	67	76	65	⊕	-321			
300 WSM																			
NOSLER BST										80	-7	⊕	-1	-26	-83	-307			
9,7 g/150 gr	0,435	980	904	832	763	4660	3962	3355	2825	100	-6	1	⊕	-24	-80	-303	21	88	205
# 20**17570**2										150	2	14	16	⊕	-49	-255			
										200	14	33	40	36	⊕	-182			
KALAHARI										80	-6	⊕	-2	-28	-93	-345			
10,0 g/155 gr	0,305	990	882	782	689	4903	3891	3059	2375	100	-5	2	⊕	-27	-89	-339	30	127	303
20**17508**2										150	4	2	2	⊕	-53	-286			
										200	2	4	4	40	⊕	-206			
NEW ORYX										80	-6	⊕	-2	-30	-93	-346			
10,7g/165 gr	0,333	970	872	781	696	5031	4067	3262	2588	100	-5	2	⊕	-28	-92	-345	28	119	282
# 20**17468**2										150	3	16	18	⊕	-54	-287			
										200	18	39	46	41	⊕	-207			
ORYX										80	-5	⊕	-4	-40	-117	-415			
11,7 g/180 gr	0,354	900	812	730	653	4741	3862	3120	2493	100	-3	3	⊕	-34	-109	-403	29	123	292
# 20**17475**2										150	8	21	23	⊕	-64	-336			
										200	24	47	55	48	⊕	-240			
308 NORMA MAG.																			
ORYX										80	-5	⊕	-4	-40	-117	-415			
11,7 g/180 gr	0,354	900	812	730	653	4741	3862	3120	2493	100	-3	3	⊕	-34	-109	-403	29	123	292
# 20**17477**2										150	8	21	23	⊕	-64	-336			
										200	24	47	55	48	⊕	-240			
300 WIN. MAG.																			
NOSLER BST										80	-7	⊕	-1	-26	-80	-298			
9,7 g/150 gr	0,435	990	913	841	772	4765	4055	3438	2899	100	-6	1	⊕	-23	-78	-295	21	86	202
# 20**17551**2										150	1	13	15	⊕	-47	-249			
										200	13	32	39	35	⊕	-178			
BARNES TSX										80	-6	⊕	-2	-28	-86	-314			
9,7 g/150 gr	0,428	980	902	829	760	4660	3952	3337	2802	100	-5	1	⊕	-25	-83	-308	22	89	209
# 20**17546**2										150	3	14	17	⊕	-49	-259			
										200	16	32	41	37	⊕	-184			

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BULLET TYPE / BULLET WEIGHT g/gr / PRODUCT NUMBER	BALLISTIC COEFFICIENT	VELOCITY METERS PER SECOND V_0	V_{100}	V_{200}	V_{300}	ENERGY IN JOULES E_0	E_{100}	E_{200}	E_{300}	ZERO RANGE, METERS	HEIGHT OF TRAJECTORY ABOVE LINE OF SIGHT IF SIGHTED IN AT ⊕ YARDS. FOR SIGHTS 40 MM ABOVE BORE 50	80	100	150	200	300	WIND DRIFT IN MM FOR A 5 M/S CROSS WIND 100	200	300
300 WIN. MAG																			
KALAHARI										80	-6	⊕	-2	-28	-90	-335			
10,0g g/155gr	0,305	1000	891	791	697	5002	3972	3126	2430	100	-5	1	⊕	-26	-86	-330	30	126	299
20**175072**										150	3	15	17	⊕	-52	-279			
										200	16	36	43	39	⊕	-201			
NEW ORYX										80	-7	⊕	-2	-28	-90	-339			
10,7g/165 gr	0,333	975	877	785	700	5083	4111	3298	2618	100	-5	2	⊕	-27	-90	-340	28	118	280
# 20**174692**										150	2	15	18	⊕	-53	-283			
										200	18	38	45	40	⊕	-205			
NOSLER ACCUBOND										80	-5	⊕	-4	-38	-109	-377			
11,7 g/180 gr	0,507	900	838	779	722	4741	4111	3551	3053	100	-3	2	⊕	-32	-102	-366	20	84	195
# 20**175482**										150	8	19	21	⊕	-59	-302			
										200	23	41	51	44	⊕	-213			
SWIFT A-FRAME										80	-5	⊕	-4	-39	-115	-407			
11,7 g/180 gr	0,400	890	813	736	670	4636	3865	3200	2629	100	-4	3	⊕	-34	-108	-396	26	109	258
# 20**175192**										150	8	21	22	⊕	-63	-329			
										200	23	46	54	47	⊕	-234			
PLASTIC POINT										80	-6	⊕	-3	-35	-106	-383			
11,7 g/180 gr	0,366	920	834	753	677	4954	4069	3317	2678	100	-5	2	⊕	-31	-101	-375	28	115	272
# 20**176872**										150	6	19	21	⊕	-60	-313			
										200	21	43	50	45	⊕	-224			
ORYX										80	-5	⊕	-4	-41	-121	-427			
11,7 g/180 gr	0,354	890	803	721	644	4636	3774	3045	2430	100	-3	3	⊕	-35	-113	-415	30	125	297
# 20**174762**										150	9	22	24	⊕	-66	-345			
										200	25	48	56	49	⊕	-246			
ORYX										80	-4	⊕	-6	-50	-141	-491			
13,0 g/200 gr	0,338	850	762	679	601	4698	3772	2995	2349	100	-1	4	⊕	-41	-130	-474	33	141	335
# 20**176762**										150	13	26	28	⊕	-75	-392			
										200	31	56	65	56	⊕	-279			
300 BLASER MAG.																			
ORYX										80	-8	⊕	-3	-39	-121	-448			
13,0 g/200 gr	0,338	860	771	687	609	4810	3865	3073	2413	100	-7	2	⊕	-35	-116	-440	33	138	330
# 20**175862**										150	5	21	23	⊕	-69	-371			
										200	22	48	58	52	⊕	-267			
7,7 JAP.																			
SOFT POINT										80	-1	⊕	-10	-78	-212	-735			
11,3 g/174 gr	0,262	760	654	557	470	3265	2416	1751	1249	100	5	8	⊕	-62	-192	-704	41	178	434
# 20**177252**										150	25	41	41	⊕	-109	-579			
										200	53	85	96	82	⊕	-416			
7,65 ARG.																			
SOFT POINT										80	-1	⊕	-10	-78	-212	-735			
11,3 g/174 gr	0,262	760	654	557	470	3265	2416	1751	1249	100	5	8	⊕	-62	-192	-704	41	178	434
# 20**177052**										150	25	41	41	⊕	-109	-579			
										200	53	85	96	82	⊕	-416			
8X57 JRS																			
FULL METAL JACKET										80	0	⊕	-11	-84	-233	-843			
8,0 g/123 gr	0,191	780	635	507	402	2435	1611	1027	647	100	6	10	⊕	-67	-210	-810	70	311	781
# 20**180162**										150	28	43	45	⊕	-121	-676			
										200	58	89	105	91	⊕	-494			
ORYX										80	1	⊕	-12	-83	-221	-734			
12,7 g/196 gr	0,331	730	647	570	500	3385	2662	2066	1585	100	7	9	⊕	-66	-198	-699	43	181	433
# 20**180102**										150	29	44	44	⊕	-110	-568			
										200	56	88	98	83	⊕	-402			

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	BULLET TYPE BULLET WEIGHT g/gr PRODUCT NUMBER	BALLISTIC COEFFICIENT	VELOCITY METERS PER SECOND				ENERGY IN JOULES				ZERO RANGE, METERS	HEIGHT OF TRAJECTORY ABOVE LINE OF SIGHT IF SIGHTED IN AT ⊕ YARDS. FOR SIGHTS 40 MM ABOVE BORE						WIND DRIFT IN MM FOR A 5 M/S CROSS WIND		
			V_0	V_{100}	V_{200}	V_{300}	E_0	E_{100}	E_{200}	E_{300}		50	80	100	150	200	300	100	200	300
 8X57 JRS	ALASKA 12,7 g/196 gr # 20**18018**2	0,305	730	641	558	483	3385	2607	1977	1482	80	0	⊕	-12	-83	-224	-754			
											100	6	9	⊕	-66	-201	-719	46	198	477
											150	28	45	44	⊕	-113	-587			
											200	56	90	100	85	⊕	-418			
	VULKAN 12,7 g/196 gr # 20**18019**2	0,345	730	650	576	507	3385	2687	2108	1635	80	0	⊕	-11	-81	-215	-717			
											100	6	9	⊕	-64	-193	-684	41	173	413
											150	27	43	43	⊕	-108	-556			
											200	54	86	97	81	⊕	-394			
	ALASKA 12,7 g/196 gr # 20**18003**2	0,305	770	678	592	513	3767	2918	2226	1675	80	0	⊕	-10	-73	-197	-665			
											100	5	8	⊕	-58	-177	-636	43	183	441
											150	24	39	39	⊕	-100	-520			
											200	49	79	89	75	⊕	-371			
 8X57 JS	ORYX 12,7 g/196 gr # 20**18004**2	0,331	770	685	605	531	3767	2979	2325	1793	80	-1	⊕	-10	-71	-191	-643			
											100	4	8	⊕	-57	-172	-614	39	167	400
											150	23	38	38	⊕	-97	-501			
											200	47	77	86	73	⊕	-356			
	VULKAN 12,7 g/196 gr # 20**18020**2	0,347	770	688	612	541	3767	3011	2378	1857	80	-1	⊕	-9	-68	-185	-626			
											100	3	7	⊕	-55	-168	-599	37	159	379
											150	21	36	37	⊕	-95	-490			
											200	45	74	84	71	⊕	-347			
 8X68S	SWIFT A-FRAME 13,0 g/200 gr # 20**18037**2	0,357	900	813	731	655	5267	4299	3479	2786	80	-5	⊕	-4	-39	-116	-413			
											100	-3	3	⊕	-34	-109	-402	29	122	289
											150	8	21	23	⊕	-64	-334			
											200	24	47	55	48	⊕	-239			
338 WIN. MAG.	ORYX 14,9 g/230 gr # 20**18511**2	0,370	840	759	683	612	5259	4299	3481	2790	80	-3	⊕	-6	-52	-145	-495			
											100	0	5	⊕	-43	-133	-477	31	130	308
											150	15	27	29	⊕	-76	-391			
											200	33	55	66	57	⊕	-277			
338 BLASER MAG.	ORYX 14,9 g/230 gr # 20**18508**2	0,370	860	778	702	629	5512	4516	3668	2949	80	-4	⊕	-5	-46	-132	-460			
											100	-2	4	⊕	-39	-123	-445	30	125	296
											150	11	25	26	⊕	-71	-368			
											200	29	53	61	53	⊕	-262			
35 WHELEN	ORYX 16,2 g/250 gr # 20**19009**2	0,340	740	659	583	513	4438	3518	2755	2133	80	0	⊕	-11	-78	-208	-697			
											100	5	9	⊕	-62	-187	-665	40	172	410
											150	26	41	41	⊕	-105	-541			
											200	52	83	94	79	⊕	-384			
358 NORMA MAG.	ORYX 16,2 g/250 gr # 20**19007**2	0,340	840	753	670	594	5718	4589	3643	2856	80	-3	⊕	-6	-53	-149	-511			
											100	0	5	⊕	-44	-136	-492	34	142	340
											150	15	27	29	⊕	-78	-404			
											200	34	56	68	58	⊕	-287			
9,3X57	ORYX 15,0 g/232 gr # 20**19309**2	0,267	720	619	527	446	3890	2875	2084	1494	80	2	⊕	-13	-92	-247	-837			
											100	9	12	⊕	-73	-220	-798	55	236	574
											150	33	48	48	⊕	-124	-652			
											200	64	94	110	93	⊕	-467			
	ALASKA 18,5 g/285 gr # 20**19303**2	0,365	630	561	497	440	3673	2911	2288	1792	80	6	⊕	-18	-120	-310	-1001			
											100	15	15	⊕	-93	-273	-946	38	160	382
											150	46	64	62	⊕	-150	-760			
											200	83	124	137	112	⊕	-536			

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	BULLET TYPE / BULLET WEIGHT g/gr / PRODUCT NUMBER	BALLISTIC COEFFICIENT	VELOCITY METERS PER SECOND V_0	V_{100}	V_{200}	V_{300}	ENERGY IN JOULES E_0	E_{100}	E_{200}	E_{300}	ZERO RANGE, METERS	HEIGHT OF TRAJECTORY ABOVE LINE OF SIGHT IF SIGHTED IN AT ⊕ YARDS. FOR SIGHTS 40 MM ABOVE BORE 50	80	100	150	200	300	WIND DRIFT IN MM FOR A 5 M/S CROSS WIND 100	200	300
	VULKAN										80	-1	⊕	-9	-66	-183	-631			
	15,0 g/232 gr	0,278	800	697	602	515	4802	3644	2716	1989	100	3	7	⊕	-54	-166	-605	45	192	466
	# 20**193172**										150	21	35	36	⊕	-94	-498			
											200	44	73	83	71	⊕	-356			
	ORYX										80	-1	⊕	-9	-67	-186	-643			
	15,0 g/232 gr	0,267	800	693	594	505	4802	3601	2647	1911	100	3	8	⊕	-54	-168	-617	47	201	490
	# 20**193072**										150	21	35	36	⊕	-96	-509			
											200	45	71	84	72	⊕	-365			
	SWIFT A-FRAME										80	0	⊕	-11	-80	-211	-688			
	18,5 g/286 gr	0,428	720	656	596	539	4797	3984	3282	2685	100	6	9	⊕	-63	-189	-655	33	139	327
	# 20**193332**										150	27	43	42	⊕	-105	-529			
											200	53	84	94	79	⊕	-372			
9,3X62 	ORYX										80	1	⊕	-12	-85	-226	-754			
	18,5 g/285 gr	0,330	720	638	561	491	4797	3764	2915	2234	100	7	10	⊕	-67	-203	-719	44	185	443
	# 20**193132**										150	29	45	45	⊕	-113	-584			
											200	57	91	101	85	⊕	-415			
	PLASTIC POINT										80	1	⊕	-12	-83	-220	-726			
	18,5 g/285 gr	0,365	720	645	575	511	4797	3855	3065	2414	100	6	9	⊕	-65	-197	-691	39	165	393
	# 20**193142**										150	28	44	44	⊕	-110	-560			
											200	56	88	98	82	⊕	-396			
	ALASKA										80	1	⊕	-12	-84	-223	-731			
	18,5 g/285 gr	0,365	720	645	575	511	4797	3854	3063	2412	100	7	10	⊕	-66	-199	-695	39	165	394
	# 20**193152**										150	30	45	44	⊕	-110	-563			
											200	57	89	99	83	⊕	-397			
	ORYX										80	3	⊕	-15	-101	-262	-850			
	21,1 g/325 gr	0,383	670	602	538	479	4738	3821	3054	2425	100	10	12	⊕	-78	-232	-805	41	174	413
	# 20**193162**										150	37	54	52	⊕	-128	-649			
											200	68	105	116	96	⊕	-457			
	VULKAN										80	-1	⊕	-9	-70	-193	-666			
	15,0 g/232 gr	0,278	780	678	585	500	4565	3454	2566	1876	100	3	7	⊕	-57	-175	-639	46	199	483
	# 20**193212**										150	22	37	38	⊕	-100	-526			
											200	47	77	87	75	⊕	-377			
	ALASKA										80	1	⊕	-12	-86	-228	-751			
	18,5 g/285 gr	0,365	710	636	567	503	4665	3743	2972	2339	100	7	10	⊕	-68	-204	-714	40	169	401
	# 20**193202**										150	30	46	45	⊕	-113	-579			
											200	58	91	102	85	⊕	-409			
9,3X74R 	PLASTIC POINT										80	1	⊕	-12	-83	-220	-726			
	18,5 g/285 gr	0,365	720	645	575	510	4797	3852	3060	2408	100	6	9	⊕	-65	-197	-692	39	166	395
	# 20**193252**										150	28	44	44	⊕	-110	-561			
											200	56	88	98	82	⊕	-397			
	ORYX										80	1	⊕	-13	-88	-235	-781			
	18,5 g/285 gr	0,330	710	628	553	484	4665	3655	2826	2164	100	8	10	⊕	-70	-210	-743	44	189	452
	# 20**193322**										150	31	47	46	⊕	-117	-604			
											200	60	94	105	88	⊕	-428			
	BARNES TSX										80	-3	⊕	-7	-61	-169	-579			
	17,5 g/270 gr	0,326	800	712	629	552	5602	4434	3464	2670	100	1	6	⊕	-50	-154	-557	38	160	384
	# 20**195302**										150	18	32	33	⊕	-88	-458			
											200	40	67	77	66	⊕	-326			
375 H&H MAG. 																				

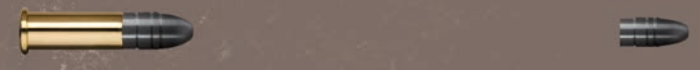
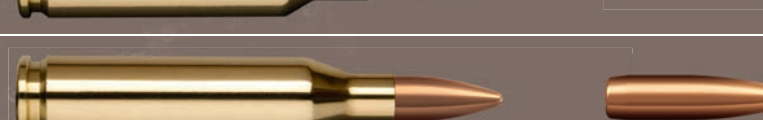
BALLISTIC DATA - HUNTING AMMUNITION

	BULLET TYPE / BULLET WEIGHT g/gr / PRODUCT NUMBER	BALLISTIC COEFFICIENT	VELOCITY METERS PER SECOND V_0	V_{100}	V_{200}	V_{300}	ENERGY IN JOULES E_0	E_{100}	E_{200}	E_{300}	ZERO RANGE, METERS	HEIGHT OF TRAJECTORY ABOVE LINE OF SIGHT IF SIGHTED IN AT ⊕ YARDS. FOR SIGHTS 40 MM ABOVE BORE 50	80	100	150	200	300	WIND DRIFT IN MM FOR A 5 M/S CROSS WIND 100	200	300
375 H&H MAG.	ORYX										80	-1	⊕	-9	-69	-187	-631			
	19,4 g/300 gr	0,320	780	691	608	532	5904	4636	3591	2744	100	4	8	⊕	-55	-169	-604	40	170	408
	# 20**19520**2										150	22	36	37	⊕	-95	-494			
											200	46	71	84	71	⊕	-351			
	SWIFT A-FRAME										80	-2	⊕	-8	-66	-181	-619			
	19,4 g/300 gr	0,325	780	693	611	536	5904	4656	3624	2784	100	2	7	⊕	-53	-165	-594	39	167	400
	# 20**19503**2										150	20	35	36	⊕	-94	-487			
											200	43	73	82	70	⊕	-347			
375 BLASER MAG.	ORYX										80	-3	⊕	-7	-57	-159	-550			
	19,4 g/300 gr	0,320	820	729	643	564	6539	5164	4026	3096	100	1	5	⊕	-47	-146	-530	37	158	378
	# 20**19532**2										150	16	30	31	⊕	-83	-436			
											200	37	64	73	63	⊕	-311			
416 RIGBY	SWIFT A-FRAME										80	1	⊕	-12	-83	-221	-732			
	25,9 g/400 gr	0,367	716	642	573	508	6642	5340	4247	3348	100	6	9	⊕	-66	-198	-697	39	166	394
	# 20**11069**2										150	28	44	44	⊕	-111	-566			
											200	56	88	99	83	⊕	-400			
458 WIN. MAG.	SWIFT A-FRAME										80	4	⊕	-17	-112	-292	-947			
	32,4 g/500 gr	0,361	645	574	509	450	6743	5345	4197	3280	100	13	14	⊕	-87	-258	-897	47	197	467
	# 20**11120**2										150	42	60	58	⊕	-142	-723			
											200	77	117	129	106	⊕	-510			

FACTS ABOUT THE BALLISTIC DATA

The velocity and energy data for Norma ammunition are based on the use of a 24-inch barrel. For any barrel longer or shorter, use the 20-25 fps-per-inch rule of thumb. Longer barrels will have higher velocity by this amount, and shorter barrels less by the same. As a result of variations in factors such as barrel material, length, wear and measurements, stated velocities should only be used as guidelines. We recommend that any rifle should always be sighted in after any change in the type of ammunition.

BALLISTIC DATA – JAKTMATCH

	BULLET TYPE / BULLET WEIGHT G/GR / PRODUCT NUMBER	BALLISTIC COEFFICIENT	VELOCITY METERS PER SECOND V_0	V_{100}	V_{200}	V_{300}	ZERO RANGE, METERS	HEIGHT OF TRAJECTORY ABOVE LINE OF SIGHT IF SIGHTED IN AT ⊕ METERS. FOR SIGHTS 40 MM ABOVE BORE 50	80	100	150	200	300 M	WIND DRIFT IN MM FOR A 5 M/S CROSS WIND 100	200	300 M
 22 LONG RIFLE	LEAD, ROUND NOSE		(V_0)	(V_{25})	(V_{50})	(V_{100})	50	(25)	(50)	(75)	(100)	(150)	-	-	-	-
	2,6 g/40 gr	0,150	325	310	295	265	50	11	⊕	-80	-232	-775	-	127	-	-
	# 87**156120**															
 222 REM.	FULL METAL JACKET						80	-5	⊕	-4	-41	-126	-480			
	3,6 g/55 gr	0,209	940	791	656	536	100	-4	3	⊕	-36	-119	-469	48	211	522
	# 20**157210**						150	8	22	24	⊕	-71	-398			
							200	26	51	60	53	⊕	-291			
 223 REM.	FULL METAL JACKET						80	-6	⊕	-3	-35	-110	-423			
	3,6 g/55 gr	0,209	990	835	696	571	100	-4	2	⊕	-31	-104	-414	45	196	484
	# 20**157260**						150	6	19	21	⊕	-63	-352			
							200	22	44	52	47	⊕	-258			
 22-250 REM.	FULL METAL JACKET						80	-7	⊕	0	-22	-77	-315			
	3,6 g/55 gr	0,209	1100	932	783	650	100	-7	0	⊕	-21	-76	-314	40	171	417
	# 20**157320**						150	0	12	14	⊕	-48	-272			
							200	12	31	38	36	⊕	-200			
 6MM NORMA BR	FULL METAL JACKET						80	-3	⊕	-6	-51	-142	-489			
	6,2 g/95 gr	0,351	850	765	684	609	100	0	5	⊕	-42	-131	-471	32	135	321
	# 20**160280**						150	14	27	28	⊕	-75	-388			
							200	33	57	65	56	⊕	-276			
 6XC	FULL METAL JACKET						80	-4	⊕	-4	-41	-120	-421			
	6,2 g/95 gr	0,351	900	812	729	650	100	-2	3	⊕	-35	-112	-409	30	124	295
	# 20**160290**						150	10	22	23	⊕	-65	-339			
							200	26	48	56	49	⊕	-241			
 243 WIN.	FULL METAL JACKET						80	-6	⊕	-2	-30	-93	-340			
	6,2 g/95 gr	0,351	975	882	794	712	100	-5	2	⊕	-27	-89	-334	27	111	263
	# 20**160370**						150	4	16	18	⊕	-53	-280			
							200	17	37	44	40	⊕	-200			
 6,5X55	HOLLOW POINT						80	-2	⊕	-8	-62	-171	-586			
	6,5 g/100 gr	0,321	800	710	626	548	100	2	6	⊕	-50	-156	-563	38	163	392
	# 20**165270**						150	18	33	34	⊕	-89	-463			
							200	41	68	78	67	⊕	-330			
	FULL METAL JACKET						80	-3	⊕	-6	-53	-147	-497			
	"Elektron/bird"	0,428	820	751	685	623	100	0	5	⊕	-43	-134	-478	27	115	270
	7,8 g/120 gr						150	14	28	29	⊕	-77	-391			
	# 20**165420**						200	34	59	67	57	⊕	-277			
 6,5-284 NORMA	FULL METAL JACKET						80	-6	⊕	-2	-30	-93	-336			
	7,8 g/120 gr	0,428	950	874	803	735	100	-5	2	⊕	-27	-89	-330	22	93	218
	# 20**165860***						150	4	16	18	⊕	-53	-276			
							200	17	37	44	40	⊕	-197			
 270 WIN.	FULL METAL JACKET						80	-4	⊕	-5	-44	-127	-441			
	8,4 g/130 gr	0,365	880	796	717	642	100	-2	4	⊕	-37	-117	-427	29	123	292
	# 20**169070**						150	11	23	25	⊕	-68	-352			
							200	28	48	59	51	⊕	-250			

BALLISTIC DATA – JAKTMATCH

	BULLET TYPE BULLET WEIGHT G/GR PRODUCT NUMBER	BALLISTIC COEFFICIENT	VELOCITY METERS PER SECOND V_0	V_{100}	V_{200}	V_{300}	ZERO RANGE, METERS	HEIGHT OF TRAJECTORY ABOVE LINE OF SIGHT IF SIGHTED IN AT ⊕ METERS . FOR SIGHTS 40 MM ABOVE BORE 50	80	100	150	200	300 M	WIND DRIFT IN MM FOR A 5 M/S CROSS WIND 100	200	300 M
270 WSM	FULL METAL JACKET 8,4 g/130 gr # 20**1693**10*	0,365	960	871	787	709	80 100 150 200	-6 -4 5 19	⊕ 2 16 36	-3 ⊕ 19 46	-32 -28 ⊕ 41	-97 -92 -54 ⊕	-350 -342 -286 -205	26	109	258
7MM REM. MAG.	FULL METAL JACKET 9,7 g/150 gr # 20**1702**60	0,443	913	842	774	709	80 100 150 200	-6 -4 6 21	⊕ 2 19 42	-3 ⊕ 20 49	-35 -31 ⊕ 44	-105 -99 -58 ⊕	-371 -362 301 -241	23	95	222
308 WIN.	FULL METAL JACKET 9,7 g/150 gr # 20**1762**20	0,423	810	741	675	613	80 100 150 200	-3 0 16 35	⊕ 5 29 61	-7 ⊕ 30 70	-55 -45 ⊕ 59	-153 -139 -79 ⊕	-514 -494 -404 -286	28	118	278
30-06	FULL METAL JACKET 9,7 g/150 gr # 20**1765**10	0,423	845	774	706	642	80 100 150 200	-3 0 13 31	⊕ 5 26 55	-6 ⊕ 27 63	-49 -41 ⊕ 54	-138 -126 -72 ⊕	-467 -450 -368 -260	27	111	262
300 WSM	FULL METAL JACKET 9,7 g/150 gr # 20**1757**30*	0,423	900	826	756	690	80 100 150 200	-5 -3 9 24	⊕ 3 20 43	-4 ⊕ 22 53	-39 -33 ⊕ 46	-114 -106 -62 ⊕	-396 -384 -318 -225	24	102	238
300 WIN. MAG.	FULL METAL JACKET 9,7 g/150 gr # 20**1754**50*	0,423	935	859	787	719	80 100 150 200	-6 -4 6 20	⊕ 2 18 40	-3 ⊕ 20 48	-34 -30 ⊕ 42	-101 -95 -56 ⊕	-358 -349 -290 -206	23	96	226
8X57 JS	FULL METAL JACKET 8,0 g/123 gr # 20**1800**90	0,191	860	706	569	451	80 100 150 200	-3 0 17 40	⊕ 5 32 70	-7 ⊕ 33 80	-60 -50 ⊕ 71	-174 -160 -94 ⊕	-652 -632 -533 -392	61	269	676
338 WIN. MAG.	FULL METAL JACKET 14,6 g/225 gr # 20**1851**00*	0,499	810	751	695	641	80 100 150 200	-2 1 16 35	⊕ 6 29 60	-7 ⊕ 30 68	-55 -45 ⊕ 58	-150 -136 -77 ⊕	-497 -476 -389 -272	24	99	231
358 NORMA MAG.	FULL METAL JACKET 15,0 g/232 gr # 20**1900**80	0,275	800	696	600	513	80 100 150 200	-2 2 20 43	⊕ 7 35 72	-8 ⊕ 35 82	-6 -53 ⊕ 70	-18 -164 -94 ⊕	-628 -604 -498 -357	45	194	471
9,3X57	FULL METAL JACKET 15,0 g/232 gr # 20**1930**60	0,275	675	580	495	421	80 100 150 200	3 11 39 75	⊕ 14 58 109	-16 ⊕ 56 127	-108 -84 ⊕ 106	-285 -254 -142 ⊕	-959 -911 -743 -531	58	251	606
9,3X62	FULL METAL JACKET 15,0 g/232 gr # 20**1931**80	0,275	765	663	570	486	80 100 150 200	-1 4 24 50	⊕ 8 38 80	-10 ⊕ 40 92	-75 -6 ⊕ 78	-205 -185 -105 ⊕	-704 -675 -555 -397	48	208	506

NORMA SOLIDS

For the working guide, there are three considerations for ammunition: reliable feeding, reliable ignition and reliable straight-line penetration.

Many guides like to carry their rifles with an empty chamber and only actually load when danger threatens. The Norma Solids are designed to ensure reliable feeding in just about any make of rifle, including old, well-worn ones.

The law often forces a guide to allow a charging animal to get too close for comfort before he may shoot for effect. Unless he's carrying a double rifle, he's limited to one shot. Being made from a proprietary brass alloy, Norma Solids are guaranteed not to break up, turn or deviate.

They will give straight-line penetration through whatever they encounter. Like the PH series of ammunition, these rounds are loaded under higher than normal standards of quality control to ensure absolute reliability.

Professional Hunter

NORMA SOLIDS

These are designed for hunting pachyderms and for back-up shots on eland and giraffe. They are designed solely for the toughest game on earth and to keep the hunter out of harm's way. Inspection checks are taken in the production of the ammunition to ensure absolute reliability in situations where there can be no compromise.

The nose is as blunt as possible to ensure straight-line, deep penetration without compromising reliable feeding.

There are bevelled edges on barrel contact surfaces to ensure maximum accuracy and minimum fouling.

The waist is relieved to reduce pressure and increase velocity while not compromising bullet integrity and strength.

9,3X62 SOLID
17,8 g/275 gr

375 HOLLAND & HOLLAND SOLID
19,4 g/300 gr

416 RIGBY SOLID
25,9 g/400 gr


416 TAYLOR SOLID
24,3 g / 375 gr
416 REM MAG SOLID
25,9 g / 400 gr
404 JEFFERY NITRO EXPRESS SOLID
25,9 g / 400 gr
450 RIGBY RIMLESS SOLID
32,4 g / 500 gr
458 WIN MAG SOLID
35,6 g / 550 gr
458 LOTT SOLID
32,4 g / 500 gr
500 JEFFERY SOLID
35,0 g / 540 gr
505 MAGNUM GIBBS SOLID
35,0 g / 540 gr

You Got One Shot... One Bullet...

RELIABLE ACCURACY & ENERGY for MAXIMUM PERFORMANCE.

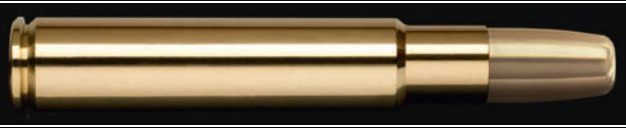
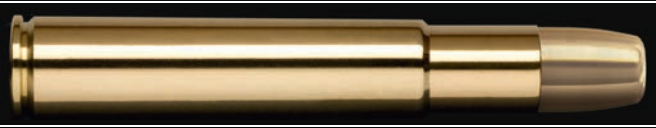
NORMA SOLIDS
NORMA PRECISION
norma
THE PROFESSIONAL'S CHOICE

When only a bullet stands between your life and death... You better make it count! Norma Precision Ammunition delivers the right combination of accuracy and energy to stop a charging bull at full speed. NORMA's established African PH & Solids offer the finest dangerous game ammunition available.

Each round is meticulously loaded under the most rigourous inspection standards in the industry.

NORMA's full line of African PH & Solids calibers range from 9.3x62 to the .505 Magnum Gibbs.

BALLISTIC DATA - NORMA SOLIDS

		PRODUCT NAME / BULLET WEIGHT g/gr / PRODUCT NUMBER	BC SD	VELOCITY METERS PER SECOND					ENERGY IN JOULES					TRAJECTORY, IN MM					MOMENTUM, KG - M/S				
				V_0	V_{50}	V_{100}	V_{150}	V_{200}	E_0	E_{50}	E_{100}	E_{150}	E_{200}	0	50	100	150	200	0	50	100	150	200
9,3X62		SOLID																					
		17,8g/275gr	0,236	745	686	629	576	525	4942	4188	3526	2950	2455	-40	6	⊕	-68	-210	13,3	12,2	11,2	10,2	9,3
		# 20**19355**2	0,293																				
375 H&H MAG.		SOLID																					
		19,4g/300gr	0,229	777	715	655	598	545	5871	4965	4172	3482	2887	-40	4	⊕	-61	-191	15,1	13,9	12,7	11,6	10,6
		# 20**19535**2	0,305																				
416 RIGBY		SOLID																					
		25,9g/400gr	0,247	725	669	616	565	518	6796	5791	4905	4131	3462	-40	7	⊕	-72	-221	18,8	17,3	15,9	14,6	13,4
		# 20**11076**2	0,330																				
416 TAYLOR		SOLID																					
		24,3g/375gr	0,245	715	659	606	555	508	6232	5298	4477	3762	3146	-40	8	⊕	-75	-228	17,4	16,1	14,7	13,5	12,4
		# 20**11054**2	0,310																				
416 REM. MAG.		SOLID																					
		25,9g/400gr	0,247	730	674	620	569	521	6947	5924	5022	4233	3550	-40	6	⊕	-70	-215	19,0	17,5	16,1	14,8	13,6
		# 20**11075**2	0,330																				
404 RIMLESS NITRO EXPRESS JEFFERY		SOLID																					
		25,9g/400gr	0,247	710	655	602	553	506	6518	5545	4689	3944	3302	-40	8	⊕	-76	-233	18,4	17,1	15,6	14,3	13,1
		# 20**11035**2	0,319																				
450 RIGBY RIMLESS		SOLID																					
		32,4g/500gr	0,269	760	707	657	608	562	9411	8153	7030	6032	5150	-40	4	⊕	-61	-189	24,7	23,0	21,3	19,8	18,3
		# 20**11104**2	0,340																				
458 WIN. MAG.		SOLID																					
		32,4g/500gr	0,269	640	592	547	504	464	6638	5685	4846	4116	3489	-40	15	⊕	-97	-290	20,7	19,2	17,7	16,3	15,0
		# 20**11118**2	0,340																				
458 LOTT		SOLID																					
		32,4g/500gr	0,269	700	650	601	555	512	7964	6862	5282	5019	4266	-40	9	⊕	-76	-232	22,7	21,1	19,5	18,0	16,6
		# 20**11117**2	0,340																				
500 JEFFERY		SOLID																					
		35,0g/540gr	0,239	730	672	617	564	515	9381	7956	6705	5617	4680	-40	7	⊕	-71	-218	25,6	23,6	21,7	19,8	18,1
		# 20**11318**2	0,300																				
505 MAGNUM GIBBS		SOLID																					
		35,0g/540gr	0,242	700	644	591	541	494	8603	7288	6136	5137	4282	-40	9	⊕	-79	-242	24,5	22,6	20,7	19,1	17,3
		# 20**11312**2	0,302																				

AFRICAN PH


norma
AFRICAN PH
DANGEROUS GAME
norma
AFRICAN PH
Professional Hunter
norma

Norma has teamed up with Woodleigh bullets to offer the finest dangerous game ammunition available. Tried and tested steel-jacketed solids and bonded-core softpoints are coupled with high quality Norma brass and powder and loaded under the most rigorous inspection standards in the industry.

Nickelled cases are used to ensure the most reliable feeding and ejection from rifles whose metalwork is too hot to touch or is full of the inevitable African dust. The Woodleigh FMJ bullets use a steel jacket twice as thick as any other in the industry. Cases are all hand inspected both before and after loading.

We carefully select powder and primer in order to make variations in point of impact from batch to batch as small as possible. It is our goal that you can pick up a box anywhere in the world and have the same point of impact as with the box you used at home.

Professional Hunter

AFRICAN PH

375 HOLLAND & HOLLAND MAGNUM

22,7 g / 350 gr

The 375 H&H Magnum is often seen as the queen of African mediums. And this versatile cartridge introduced by Holland & Holland in 1912 is an African Queen. The 375 H&H Magnum is probably the most-used big game cartridge through history, and has taken its share of all African big game. And the 375 H&H Magnum is just getting better with the newest loadings.

375 FLANGED MAGNUM NITRO EXPRESS

19,4 g / 300 gr

In 1912, the most famous pair of big game cartridges came along: the belted 375 H&H Magnum for bolt action rifles and the 375 H&H Flanged Magnum for double rifles. They soon established themselves as the standard cartridges for the safari industry. The decline in popularity of double rifles after WWII reduced demand for 375 Flanged Magnum ammunition, and with the closure of Kynoch in 1967 supplies of factory-loaded 375 Flanged dried up – until Norma reintroduced it as part of the premium African PH line in 2008.

404 RIMLESS NITRO EXPRESS JEFFERY

29,2 g / 450 gr

Introduced in 1909 and chambered in a Mauser action, the 404 became the workhorse of several African game departments. Not nearly as famous as other cartridges for African big game, it was still much more widely used. The 10.75x73 in modern loadings is better than ever, and will remain one of the greatest cartridges for big game in Africa.

416 REMINGTON MAGNUM

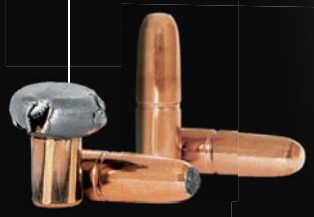
29,2 g / 450 gr

The 416 Remington Magnum is the first American-made 416, introduced in 1988 because of growing interest in the 416 calibre for hunting in Africa. The 416 Remington Magnum has the advantage of fitting into many common magnum actions that can take the 375 H&H, yet it delivers more or less the same ballistics and energy as the old 416 Rigby. That's enough for the whole game.

416 RIGBY

29,2 g / 450 gr

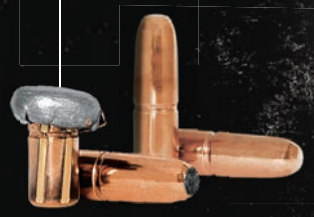
The 416 Rigby is one of the most famous cartridges for Africa. It was introduced in 1911 and with strong bullets and low pressures it was always reliable when hunting dangerous game. Following renewed interest in classic African cartridges, the 416 Rigby is seeing a new dawn, and more 416 Rigby rifles are being built than ever before.



500/416 NITRO EXPRESS

26,6 g / 410 gr

Most of the classic Nitro Express cartridges are about a hundred years old. The 500/416 NE only goes back a few years and was developed by Krieghoff, who wanted a rimmed round with performance equalling that of the 416 Rigby. The 500/416 NE is a big game cartridge for double rifles using the 500 NE case and the classic 416 calibre bullet.



AFRICAN PH

450
RIGBY RIMLESS
35,6 g / 550 gr

It's said that all Rigby cartridges are made with Africa in mind. The newest one is the 450 Rimless and it was introduced in 1995. Based on the famous 416 Rigby, this big 45 can give strong, heavy bullets higher velocities than smaller 458 Lott cases. The 450 Rigby Rimless is still new, but it is already famous in Africa.

458
LOTT
35,6 g / 550 gr

The 458 Lott was introduced by Jack Lott in 1971. After having been injured by a buffalo in Mozambique, Lott wanted more than a 458 Winchester Magnum. To improve the 458 WM the Lott case was made three-tenths of an inch longer for more case capacity. The 458 WM cartridge can be used in firearms chambered for the 458 Lott, and many African Professional Hunters now use the 458 Lott as their preferred round.

470
NITRO EXPRESS
32,4 g / 500 gr

Introduced in 1900, it became popular after 1907 with the banning of 45 calibre cartridges in India and Sudan. The 470 NE is the most popular cartridge in new double rifles for big game hunting in Africa, and in modern loadings, the classic 470 NE is better than ever.

500 JEFFERY

36,9 g / 570 gr

The 500 Jeffery cartridge was first introduced around 1920 as the 12.7x70mm Schuler, and some Krieghoff-Schuler magnum rifles were chambered for it. The 500 Jeffery/12.7x70 Schuler was the most powerful rifle cartridge before WWII, loaded to higher pressures than the better known 505 Gibbs. By offering a factory loaded 500 Jeffery, Norma is achieving its ambition to meet the demands of hunters. The interest in old, large-bore African cartridges is steadily increasing.

500 NITRO EXPRESS 3”

36,9 g / 570 gr

The 500 Nitro Express 3” was developed from black powder cartridges, and the first smokeless 500 came in the 1890s. The big 500 NE-Double became a favourite among elephant hunters, and is now in a time of renewed interest. More and more double rifles in 500 NE are being built and the time-honoured classic with new bullets will hunt in Africa again.

505 MAGNUM GIBBS

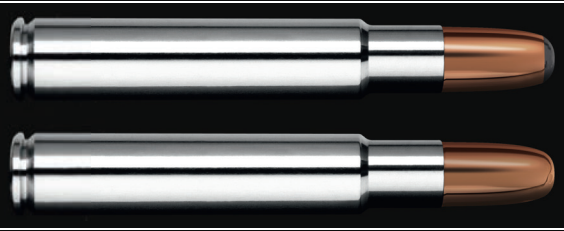
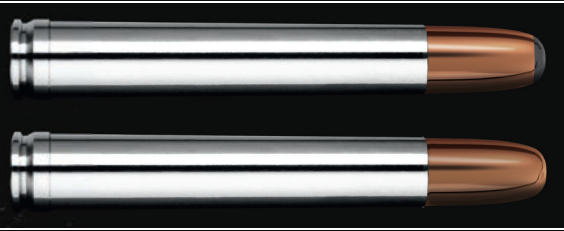
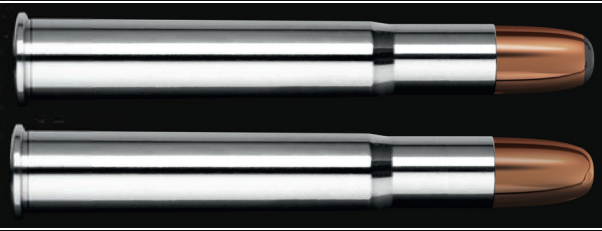
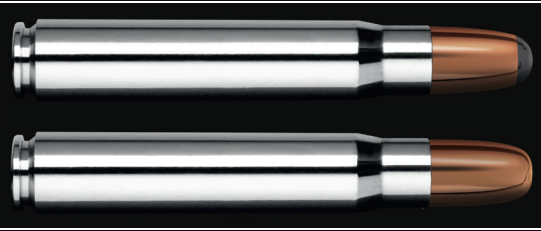
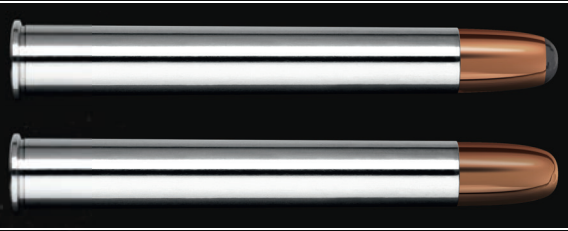
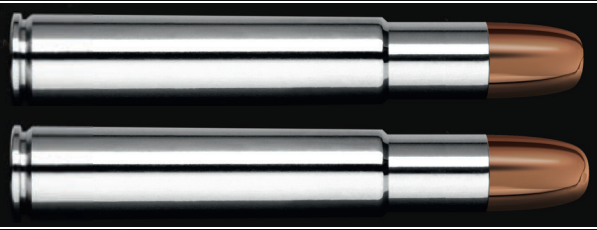
39,0 g / 600 gr

Developed by George Gibbs in 1911, the 505 was made famous by Ernest Hemingway’s story, ‘The Short Happy Life of Francis Macomber’. The big 505 Magnum Gibbs is enough cartridge for all African hunting, and is a formidable performer with modern bullets in a big rifle.

BALLISTIC DATA - AFRICAN PH

PRODUCT NAME BULLET WEIGHT g/gr PRODUCT NUMBER	BC SD	VELOCITY METERS PER SECOND					ENERGY IN JOULES					TRAJECTORY, IN MM					MOMENTUM, KG - M/S				
		V_0	V_{50}	V_{100}	V_{150}	V_{200}	E_0	E_{50}	E_{100}	E_{150}	E_{200}	0	50	100	150	200	0	50	100	150	200
375 HOLLAND & HOLLAND MAGNUM																					
SOFT NOSE																					
22,7 g / 350 gr	0,321	700	660	621	584	548	5559	4940	4376	3866	3407	-40	8	⊕	-72	-216	15,9	15,0	14,1	13,2	12,4
# 20**19525**2	0,356																				
FULL METAL JACKET																					
22,7 g / 350 gr	0,307	700	658	618	579	542	5559	4913	4328	3800	3328	-40	8	⊕	-72	-218	15,9	14,9	14,0	13,1	12,3
# 20**19526**2	0,356																				
375 FLANGED MAGNUM NITRO EXPRESS																					
SOFT NOSE																					
19,4 g / 300 gr	0,276	730	680	631	585	541	5182	4493	3878	3331	2849	-40	8	⊕	-69	-210	14,2	13,2	12,3	11,4	10,5
# 20**19522**2	0,305																				
FULL METAL JACKET																					
19,4 g / 300 gr	0,276	730	680	631	585	541	5182	4493	3878	3331	2849	-40	8	⊕	-69	-210	14,2	13,2	12,3	11,4	10,5
# 20**19523**2	0,305																				
416 REMINGTON MAGNUM																					
SOFT NOSE																					
29,2 g / 450 gr	0,338	655	618	583	549	516	6258	5576	4956	4395	3891	-40	12	⊕	-84	-250	19,1	18,0	17,0	16,0	15,1
# 20**11072**2	0,371																				
FULL METAL JACKET																					
29,2 g / 450 gr	0,325	655	617	580	545	511	6258	5551	4909	4332	3815	-40	12	⊕	-85	-253	19,1	18,0	16,9	15,9	14,9
# 20**11073**2	0,371																				
416 RIGBY																					
SOFT NOSE																					
29,2 g / 450 gr	0,338	655	618	583	549	516	6258	5576	4956	4395	3891	-40	12	⊕	-84	-250	19,1	18,0	17,0	16,0	15,1
# 20**11070**2	0,371																				
FULL METAL JACKET																					
29,2 g / 450 gr	0,325	655	617	580	545	511	6258	5551	4909	4332	3815	-40	12	⊕	-85	-253	19,1	18,0	16,9	15,9	14,9
# 20**11071**2	0,371																				
500/416 NITRO EXPRESS																					
SOFT NOSE																					
26,6 g / 410 gr	0,307	710	665	622	581	542	6700	5885	5150	4490	3901	-40	9	⊕	-72	-217	18,9	17,7	16,5	15,4	14,4
# 20**11053**2	0,338																				
FULL METAL JACKET																					
26,6 g / 410 gr	0,307	710	665	622	581	542	6700	5885	5150	4490	3901	-40	9	⊕	-72	-217	18,9	17,7	16,5	15,4	14,4
# 20**11052**2	0,338																				
404 RIMLESS NITRO EXPRESS JEFFERY																					
SOFT NOSE																					
29,2 g / 450 gr	0,365	655	621	588	556	526	6258	5625	5044	4515	4034	-40	11	⊕	-82	-244	19,1	18,1	17,1	16,2	15,3
# 20**11030**2	0,359																				
FULL METAL JACKET																					
29,2 g / 450 gr	0,360	655	621	587	555	524	6258	5616	5029	4494	4009	-40	11	⊕	-83	-245	19,4	18,1	17,1	16,2	15,3
# 20**11031**2	0,359																				

BALLISTIC DATA - AFRICAN PH

	PRODUCT NAME / BULLET WEIGHT g/gr / PRODUCT NUMBER	BC SD	VELOCITY METERS PER SECOND					ENERGY IN JOULES					TRAJECTORY, IN MM					MOMENTUM, KG - M/S				
			V_0	V_{50}	V_{100}	V_{150}	V_{200}	E_0	E_{50}	E_{100}	E_{150}	E_{200}	0	50	100	150	200	0	50	100	150	200
 450 RIGBY RIMLESS	SOFT NOSE																					
	35,6 g / 550 gr	0,340	640	604	569	536	505	7302	6505	5780	5125	4538	-40	13	⊕	-89	-263	22,8	21,5	20,3	19,1	18,0
	# 20**11105**2	0,375																				
	FULL METAL JACKET																					
	35,6 g / 550 gr	0,326	640	603	566	532	499	7302	6472	5721	5046	4444	-40	13	⊕	-90	-266	22,8	21,5	20,2	19,0	17,8
	# 20**11106**2	0,375																				
 458 LOTT	SOFT NOSE																					
	35,6 g / 550 gr	0,330	640	601	563	527	493	7302	6437	5657	4957	4335	-40	15	⊕	-92	-273	22,8	21,4	20,1	18,8	17,6
	# 20**11113**2	0,375																				
	FULL METAL JACKET																					
	35,6 g / 550 gr	0,330	640	601	563	527	493	7302	6437	5657	4957	4335	-40	15	⊕	-92	-273	22,8	21,4	20,1	18,8	17,6
	# 20**11114**2	0,375																				
 470 NITRO EXPRESS	SOFT NOSE																					
	32,4 g / 500 gr	0,374	640	607	576	545	516	6638	5976	5369	4815	4313	-40	13	⊕	-87	-257	20,7	19,7	18,6	17,7	16,7
	# 20**11205**2	0,318																				
	FULL METAL JACKET																					
	32,4 g / 500 gr	0,370	640	607	575	544	515	6638	5970	5357	4798	4292	-40	13	⊕	-88	-258	20,7	19,7	18,6	17,6	16,7
	# 20**11206**2	0,318																				
 500 JEFFERY	SOFT NOSE																					
	36,9 g / 570 gr	0,368	670	636	603	571	540	8293	7467	6709	6016	5384	-40	10	⊕	-78	-231	24,7	23,5	22,3	21,1	19,9
	# 20**11316**2	0,313																				
	FULL METAL JACKET																					
	36,9 g / 570 gr	0,350	670	634	599	566	534	8293	7427	6635	5914	5261	-40	11	⊕	-79	-234	24,7	23,4	22,1	20,9	19,7
	# 20**11315**2	0,313																				
 500 NITRO EXPRESS 3”	SOFT NOSE																					
	36,9 g / 570 gr	0,368	640	607	575	544	514	7569	6802	6100	5461	4881	-40	13	⊕	-87	-257	23,6	22,4	21,2	20,1	19,0
	# 20**11301**2	0,313																				
	FULL METAL JACKET																					
	36,9 g / 570 gr	0,350	640	605	571	539	508	7569	6764	6032	5367	4770	-40	13	⊕	-88	-261	23,6	22,4	21,1	19,9	18,8
	# 20**11302**2	0,313																				
 505 MAGNUM GIBBS	PROTECTED POINT																					
	39,0 g / 600 gr	0,360	640	606	573	542	511	7966	7142	6389	5705	5087	-40	13	⊕	-88	-259	24,9	23,6	22,3	21,1	19,9
	# 20**11310**2	0,336																				
	FULL METAL JACKET																					
	39,0 g / 600 gr	0,360	640	606	573	542	511	7966	7142	6389	5705	5087	-40	13	⊕	-88	-259	24,9	23,6	22,3	21,1	19,9
	# 20**11311**2	0,336																				

NORMA'S COMPLETE COMPETITION LINE ~ HIGH PERFORMANCE FOR RANGE & FIELD

NATIONAL SHOOTING

DIAMOND LINE

6,5x55 BANA Superior ammunition for National Match Shooting, this load gives perfect muzzle velocity. The high BC gives low drift and maximum accuracy. Recoil is low, and the moly-coated 130-grain hollow point makes for long barrel life.

6,5x55 FÄLT A top field shooters' favourite, loaded for maximum accuracy at long ranges. High muzzle velocity and BC give low trajectory and minimal drift, and the moly-coated 130-grain hollowpoint provides long barrel life.

GOLDEN TARGET

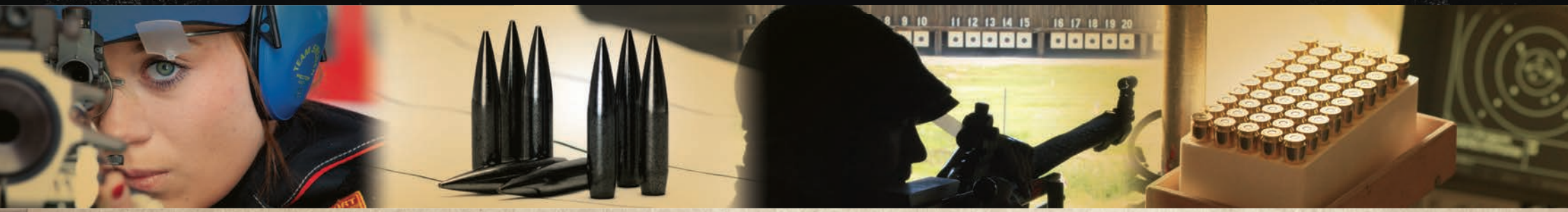
6,5x55 BANA & FÄLT This is an all-round cartridge for match and field shooting competition, loaded with a 130-grain uncoated hollowpoint. It exhibits top accuracy but costs less.

308 WIN This new 308 Winchester Match cartridge is loaded with a 150-grain uncoated full metal jacket bullet and exhibits match accuracy at a lower price than the 308 Diamond Line.

30-06 A 30-06 match cartridge with very good accuracy, the Golden Target is loaded with an uncoated 150-grain full metal jacket projectile.

BANSKYTTE/REKRUTT

6,5x55 This is an accurate training and competition round with low recoil and excellent results at a low price. It is loaded with a 100-grain uncoated hollow point.



INTERNATIONAL SHOOTING

6XC
The task of improving on the 6 BR is not at all easy, but we feel that the 6XC is at great contender. Many shooters claim they shoot better with the 6XC than anything under heaven. Whenever wind is an issue, the 6XC should be your choice.

308 WIN MATCH
This is the classic cartridge for international match competitions using standard and free rifles. It is loaded with a 10,9 g moly-coated hollowpoint bullet.

6MM NORMA BR
For ten years, this has been the dominant cartridge in international Match events. The 6mm Norma BR is the perfect combination of extreme accuracy, minimal drift and light recoil. It is the most frequently used round for major international championships, and uses a moly-coated hollowpoint weighing 6,8 g.

LONG RANGE SHOOTING

300 NORMA MAGNUM
The .300 Norma Mag. .30 caliber round, making use of the 14,9 g and 15,6 g match bullets, was designed so that the same set of headspace gauges and magazines could be used for rifles chambering the .300 NM as the .338 NM. This .30 caliber cartridge, offers long-range shooting and good barrel life with high velocities.

338 NORMA MAGNUM
Jimmie Sloan was given a clean slate to design the 'ideal' .338 cartridge for shooting a 19,4 g Sierra Match King bullets with the best accuracy and highest possible velocity within a maximum loaded cartridge length of 93,5 mm (3.68"). The result is the .338 Norma Magnum.

338 LAPUA MAGNUM
Developed by Lapua during the early 1980's as a military sniper cartridge, the .338 Lapua utilizes a modernized and strengthened .416 Rigby case. It has achieved considerable acclaim in sniping circles, particularly in Afghanistan, and has become a firm favorite of the 'tactical' crowd at the various ELR (extreme long range) matches around the world. Those who wish for a flat shooting, hard hitting rifle that is effective on game like bear and moose out to 500m, will find that the .338 Lapua delivers.

SHORT RANGE SHOOTING

22 LONG RIFLE
Norma Match Training is reasonably priced, high quality ammunition for practice and competition - for both professional match and biathlon shooting.

COLLABORATING WITH THE WORLD'S ELITE

NORMA'S DEDICATION

Since the beginning of the '90s Norma has developed match products together with some of the world's leading shooters. Johan Gustavsson and Michael Larsson are two of those who in cooperation with Norma have tested and introduced world class match cartridges.

The international Norma team field tested the products for several years before they were launched on the market.

The latest Match cartridge to be introduced is the 6XC. This cartridge has already scored the maximum 600 points three times and won gold, silver and bronze medals at European Championships – every time with factory loaded ammunition. The crowning glory is the Swedish team victory at the European Championships in Granada, Spain.

Since the beginning of this millennium, the members of the Norwegian Biathlon Team have also tested their rifles, ammunition and equipment at Norma. Working together with them, Norma has developed and constructed one of the most modern test ranges in Europe. Temperatures can be adjusted digitally, from 0° C to -25° C. There is a choice of two benches, one for the complete rifle and one for the barrel and chamber.

The electronic target equipment for this test range is from Meyton. Since 2010, Norma has been able to supply shooters with biathlon rifle spare parts and barrels, as well as technical support.

NORMA'S WORLD ELITE

Matthias Raiber, Germany

Involved in shooting sports in 1985, Matthias started with air rifle and smallbore rifle 50 meters. Part of the national team from 1999, he has represented Germany on every European, and most World Championships since. The greatest achievement is the gold medal 60 prone at the European Championship 300 meter in Granada.

Rajmond Debevec, Slovenia

Born in Slovenia, he became involved in shooting sports in 1971 and joined the Junior National Team in 1979. He represented Yugoslavia at the Olympic Games in 1984 and 1988, and Slovenia in 1992, 1996 and 2000. His most important victory was the gold medal in Sydney.

Marcel Bürge, Switzerland

Born in Switzerland, he holds several Swiss, European and World Champion titles. He shoots at both 50m and 300m, and holds the World Record of Standard Rifle 3x20, both individually and as part of a team. And he is also the holder of the Swiss record with 1183pt., shot in a 300m Free Rifle competition at the EC.

Andrea Brühlmann, Switzerland

She has won medals from national championships, European Cups, European Championships and World Championships. Since 2009 she has been part of Team Norma.

EUROPEAN 300M PRONE CHAMPION 2013

ANDERS BROLUND from Sweden, Wins the 2013 European Championship with Norma 6XC Diamond Line. He shoots his way to the top place podium on a 104 degree Fahrenheit day in Osijek, Croatia. Shot by shot he racks up 599 points earning him the gold medal and assuring that the Swedish national anthem would be played that same day to end the event. Only a few weeks later he would also go on to be awarded the 300m champion title. ~ Congratulations from the Norma-colleagues!

Elin Åhlin, Sweden

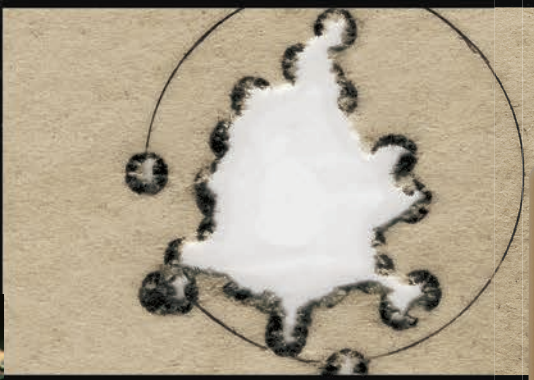
300 m shooter since she was 8 years old and Team Norma shooter since 2011, Elin won the Swedish Championship in 2012 and 2013. With her 585 points in the 2013 European Cup final 3x20, in France, she received the gold medal and this result is also a new Swedish record.

Carsten Brandt, Denmark

Carsten has won 58 national championships and currently holds six Danish records. He has unofficially equalized the world record in 300 m 60 shots prone five times with a maximum score of 600 points. He is currently number twelve at the World Ranking List in the 60 shots prone.

NORMA 6XC

>> 600 POINTS WITH THE 6XC DIAMOND LINE



>> TESTING THE 6XC DIAMOND LINE

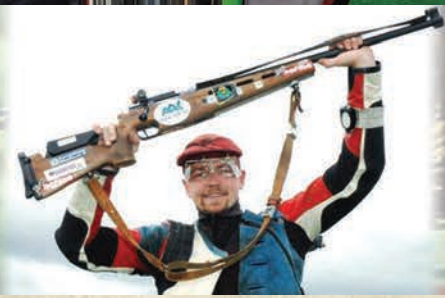
Group Shot on January 17
2007 During Development of the 6XC
BULLET: 105 grains Berger
MUZZLE VELOCITY: 2789 FPS
DISTANCE: 300 m
NO. OF ROUNDS: 60

MAXIMUM ACCURACY, LESS BARREL WEAR.

Norma Diamond Line cartridges are loaded with match quality bullets coated with molybdenum disulfide and wax.

The coating reduces friction and barrel wear, resulting in uniform velocity, less pressure and maximum accuracy.

GROWING WITH NORMA … TO THE TOP WITH NORMA



NORWEGIAN NATIONAL RIFLE CHAMPIONSHIP:

1993 Rekrutt Champion Field
1995 Dual champion Field and Target Shooting in Rekrutt Senior
1996 Winner of Junior Target Shooting
1998 Winner of Aftenposten's silver trophy - best scores for marksman under 20 years old
2006 Dual Champion in Speed and Rapid Fire Field Target shooting, winner of Officer's Trophy, no. 4 in Target Shooting.
2007 Dual Champion in Speed Shooting and Norwegian Field Target Shooting Championship.
2012 Skytterkonge at the Norwegian National Rifle Championship

Hans Kristian Wear lives by, with and for shooting. Gunsmith by trade, vendor of Norma products from his own hunting and firearms shop, avid hunter and last but not least, a shooting career that has resulted in many Norwegian, Nordic and international top rankings. It is safe to say that Hans Kristian has inherited shooting and also Norma from his father, who was a keen hunter, shooter and vendor of Norma's shooting products. Even at a young age, his path in life led him to the shooting range and the results were immediate: at 13 years old, he won the Rekrutt class in field target shooting at the Norwegian National Rifle Championship, and two years later, Hans Kristian became dual champion in Eldre Rekrutt by winning both Target Shooting and Field Target Shooting. Since then, his victories at the Norwegian National Rifle Championship have continued and culminated in the title of Skytterkonge 2012. This means that Hans Kristian has won all the Norwegian championships there are to win at the Norwegian National Rifle Championship: he is Skytterkonge for Target Shooting and Norwegian champion in Field Target Shooting, Speed Shooting and Rapid Fire Shooting. All the championships have been won with Norma Diamond Line 6.5x55 cartridges in the Sauer 200 STR and the same goes for the six gold medals in the Nordic Championships.

In both military and civil international match shooting, the Grünig & Elmiger and the Bleiker 6 mm Norma BR, are the most popular rifles, but with varying and difficult wind conditions, the 6 XC has its advantages.

As a hunter, Hans Kristian is an omnivore, even if hunting with an off-leash dog is probably his first priority! Moose, stag, deer and lynx hunting are all great.

After hunting with various rifles and calibres, such as the Steyr 30-06, Mauser M98 300Win Mag, Mauser M03 338Win Mag and Lakelander 6.5x55, nowadays a Blaser R93 with two barrels in 308 Winchester and 9.3x62 probably gets the most hunting use. In both calibres, the Blaser is loaded with Norma factory cartridges. The 180-grain Norma Oryx in the 308 Winchester works well for hunting all kinds of wild deer, even if the favourite cartridge for moose hunting with an off-leash dog is the 18.5 g Norma Oryx 9.3x62.

But Hans Kristian doesn't only make an impression as a marksman; he is a gunsmith as well. He receives most of his publicity at the Norwegian National Rifle Championship, where he spends most of his time in the Norma tent, working on and servicing Sauer 200 STR rifles in front of everyone - obviously apart from the necessary breaks in his work to allow for his own shooting.

The rest of the year he runs his company as a gunsmith, with a hunting and weapons shop at home, combined with farming, shooting and hunting.

CIVIL NORDIC CHAMPIONSHIP:
6 Nordic Championship gold medals: Target Shooting, Field and Rapid Fire Field Target Shooting

MILITARY NORDIC CHAMPIONSHIP:
9 gold medals in Half Match Precision, Half Match Rapid Fire and Field

INTERNATIONALLY:
2007 No. 1 Military World Games, Half Match Rapid
2011 No. 1 Military World Games, Half Match Rapid

WINNER OF THE NORWEGIAN CUP 2010

* Norwegain National Rifle Championship [Landsskytterstevnet] is one of the biggest shooting competitions in Europe, and has been held since 1893, with 5,617 unique participants in 2013. The record is 7,181 participants in 1990.

BALLISTIC DATA – MATCH

	PRODUCT NAME BULLET TYPE PRODUCT NUMBER	BALL. COEFFI-CIENT	BULLET WEIGHT GRAINS	BULLET WEIGHT GRAM	BARREL LENGTH, MM	VELOCITY METERS PER SECOND V_0	HEIGHT OF TRAJECTORY ABOVE LINE OF SIGHT IF SIGHTED IN AT ⊕ METERS. FOR SIGHTS 40MM ABOVE BORE 100	200	300	400	500	600 M	WIND DRIFT IN MM FOR A 5 M/S CROSS WIND 300	600 M
NEW 223 REM	SIERRA Hollow Point # 10**157502**	0,372	77	5,0	610	850	153	179	⊕	-433	-1188	-2358	300	1421
6MM NORMA BR	DIAMOND LINE BERGER Coated Hollow Point # 10**160162**	0,517	105	6,8	660	850	138	160	⊕	-372	-992	-1904	207	931
6XC	DIAMOND LINE BERGER Coated Hollow Point # 10**160182**	0,517	105	6,8	660	920	113	134	⊕	-312	-830	-1590	184	824
6,5X55	DIAMOND LINE FÄLT Coated Hollow Point # 10**165300**	0,548	130	8,4	740	900	114	135	⊕	-312	-829	-1584	176	782
6,5X55	DIAMOND LINE BANA Coated Hollow Point # 10**165000**	0,548	130	8,4	670	830	144	166	⊕	-383	-1019	1949	201	898
			130	8,4	740	850	136	157	⊕	-363	-966	-1847	194	866
6,5X55	BANSKYTTE/REKRUTT Hollow Point # 10**165230**	0,345	100	6,5	740	800	182	212	⊕	-523	-1450	-2906	360	1727
6,5X55	GOLDEN TARGET Hollow Point # 10**165130**	0,548	130	8,4	740	830	144	166	⊕	-383	-1019	-1949	201	898
NEW 6,5-284 NORMA	GOLDEN TARGET Hollow Point # 20**166092**	0,548	130	8,4	660	935	107	127	⊕	-294	-781	-1491	169	749
308 WIN	GOLDEN TARGET Full Metal Jacket # 10**175230**	0,438	150	9,7	740	830	154	178	⊕	-421	-1136	-2210	257	1188
308 WIN	DIAMOND LINE MATCH Coated Hollow Point # 10**176152***	0,470	168	10,9	660	777	180	200	⊕	-470	-1270	-2470	239	1083
NEW 30-06	GOLDEN TARGET Full Metal Jacket # 10**175630**	0,438	150	9,7	740	850	148	168	⊕	-399	-1076	-2092	248	1145

BALLISTIC DATA – LONG RANGE MATCH

	PRODUCT NAME / BULLET TYPE / PRODUCT NUMBER	BALL. COEFFI-CIENT	BULLET WEIGHT GRAINS	BULLET WEIGHT GRAM	BARREL LENGTH, MM	VELOCITY METERS PER SECOND V_0	HEIGHT OF TRAJECTORY ABOVE LINE OF SIGHT IF SIGHTED IN AT ⊕ METERS. FOR SIGHTS 40MM ABOVE BORE 100	200	300	400	500	600 M	WIND DRIFT IN MM FOR A 5 M/S CROSS WIND 300	600 M
NEW 300 NORMA MAG	BERGER Hollow Point # 20**17460**2	0,743	230	14,9	660	910	108	126	⊕	-285	-747	-1404	126	543
NEW 338 NORMA MAG	SIERRA Hollow Point # 20185262	0,768	300	19,4	660	810	144	163	⊕	-365	-953	-1791	144	621
NEW 338 LAPUA MAG	SIERRA Hollow Point # 10**1852**02	0,587	250	16,2	685	860	131	151	⊕	-346	-915	-1742	176	780
NEW 338 LAPUA MAG	SIERRA Hollow Point # 10**1852**42	0,768	300	19,4	685	810	144	163	⊕	-365	-953	-1791	144	621

BALLISTIC DATA – SHORT RANGE MATCH

	PRODUCT NAME / BULLET TYPE / PRODUCT NUMBER	BALL. COEFFI-CIENT	BULLET WEIGHT GRAINS	BULLET WEIGHT GRAM	VELOCITY, METERS PER SECOND V_0	V_{25}	V_{50}	V_{100}	ZERO RANGE, METERS	HEIGHT OF TRAJECTORY ABOVE LINE OF SIGHT 25	50	75	100	150 M	WIND DRIFT AT 100 METERS
22 LONG RIFLE	MATCH Lead, Round Nose # 87**1561**40	0,150	2,6	40	325	310	295	265	50	11	⊕	-80	-232	-775	127

FACTS ABOUT THE BALLISTIC DATA

The velocity and energy data for Norma ammunition are based on the use of a 24-inch barrel. For any barrel longer or shorter, use the 20-25 fps-per-inch rule of thumb. Longer barrels will have higher velocity by this amount, and shorter barrels less by the same. As a result of variations in factors such as barrel material, length, wear and measurements, stated velocities should only be used as guidelines. We recommend that any rifle should always be sighted in after any change in the type of ammunition.

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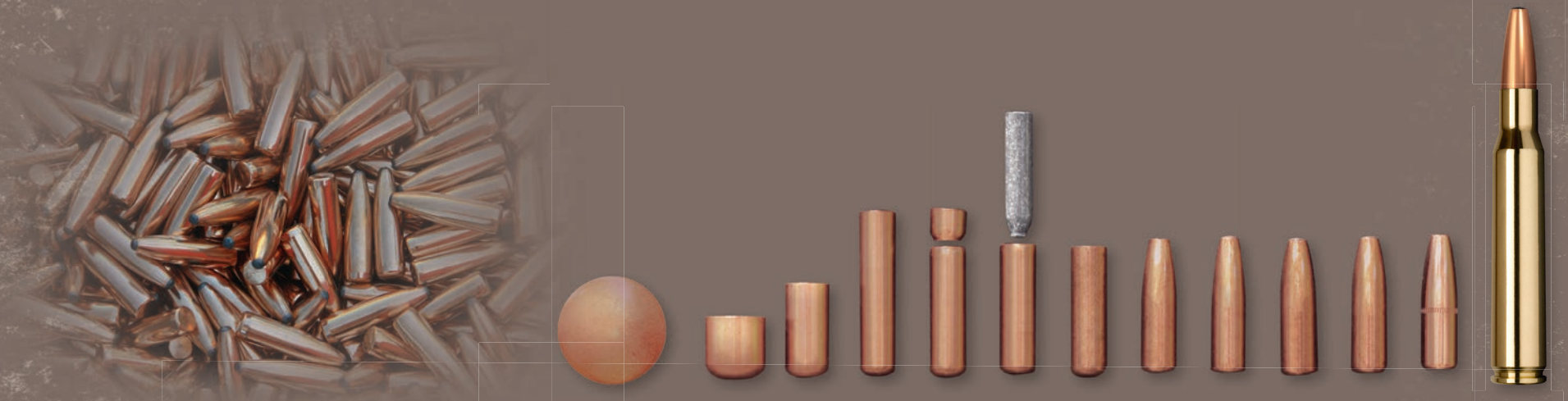

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FOR CURRENT DATA & SPECIFICATIONS RELATED TO AMMUNITION, BALLISTICS AND RELOADING COMPONENTS ~ PLEASE VISIT US ONLINE AT WWW.NORMA.CC & WWW.NORMA-USA.COM

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	T-SHIRT (M, L, XL) (RIGHT)	66040100
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5.	**CAP**	66040101
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10.	**SIGHTING IN TARGET** (100 PCS)	66040114
11.	**BAG** (30,3X14,2X14,6 INCH)	66040102
12.	**BAG WITH TWO WHEELS** (31,5X12,6X15,7 INCH)	66040119

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