



# CERTIFIED BIODEGRADABLE SHOTSHELL WADS

High performance in your shots while  
minimizing environmental impact

[www.novizon-wads.com](http://www.novizon-wads.com)





NUREL'S Polymerization and Polycondensation units

## 50 YEARS OF INNOVATION & EXCELLENCE

► NUREL, a key company within the solid **SAMCA Group**, an industrial group with presence in 9 global sectors, is a leading **European company** with over **50 years of expertise**. We operate our own **Research and Development Center for Advanced Materials**, where a highly specialized team of professionals continuously develops **cutting-edge solutions**, driving innovation and **sustainability** in the industry.

## FOUR COMPLEMENTARY DIVISIONS DRIVING INNOVATION

► NUREL continues to **expand** and **innovate** across its four business divisions, each equipped with **state-of-the-art manufacturing capabilities** to deliver advanced material solutions:



### SYNTHETIC FIBERS

8,000 tons/year  
Continuous nylon yarn  
2 spinning plants



### POLYMERS

27,000 tons/year  
2 PA6 polymerisation plants  
3 post-condensation units  
1 recycling unit



### BIOPOLYMERS

49,000 tons/year  
6 extrusion &  
compounding units



### INJECTION SOLUTIONS

Broad expertise. Flexible and  
scalable production capacity  
Best-in-class equipment

## NUREL BIOPOLYMERS

► Since 2015, under the **INZEA®** brand, **NUREL** has specialized in **biodegradable** and **compostable biopolymers**. With advanced extrusion facilities, we offer a broad portfolio with grades for extrusion and injection moulding, certified by TÜV AUSTRIA under OK compost INDUSTRIAL, OK compost HOME, and OK biodegradable SOIL.

We also develop **tailored grades** where biodegradability and compostability deliver **real value**, ensuring **sustainable, high-performance solutions**.



## NUREL INJECTION SOLUTIONS

► **NUREL Injection Solutions** is a new business division specialising in compostable and biodegradable injection-moulded components for **short-lifespan applications**, initially focused on the on the hunting industry.

We provide **end-to-end services**, from concept and design to material selection, prototyping, production, and certification, delivering **high-performance sustainable solutions** that minimise environmental impact.





## SOIL-BIODEGRADABLE WADS FOR HUNTING AND SPORTING CARTRIDGES

- **NOVIZON** high-precision shotshell wads are designed for environmentally conscious shooting enthusiasts, delivering **excellent ballistic performance** and providing a **smooth shooting experience**.
- Our wads are partially **bio-based**, made from **plant starch** and other **biopolymers**.
- **Both material and wads** have been certified **OK biodegradable SOIL** by **TÜV AUSTRIA**.
- We offer **different models** to suit different needs, with options specifically designed and patented for **all shot types**, steel, lead, bismuth and tungsten.

### THE PROBLEM

Every year, 3 billion hunting wads are produced worldwide. Made from non-biodegradable plastics (LDPE), they contribute to the **build-up of plastic waste in the environment**, harming wildlife and ecosystems.

Like other single-use products, they are difficult to manage responsibly and face growing regulatory and environmental pressure due to their negative ecological impact.



LDPE wads become litter in nature



### THE SOLUTION

- First in the market**
- Certified soil biodegradability**  

- Specific design for biodegradability**
- Leaves **0 microplastics**. decomposes adding nutrients to the soil.
- CIP approved**
- Patented material & design**
- They do **not absorb moisture** and maintain dimensional stability
- Optimal ballistics and pattern quality**  
Our wads are more flexible and elastic to offer a soft feeling when shooting

# INZEA® BIOPOLYMERS AND NOVIZON WADS ARE SOIL BIODEGRADABLE CERTIFIED



We use **INZEA** grades **specifically formulated for hunting & clay wads**

**INZEA** biopolymers are **partially bio-based**, formulated from plant starch and other biopolymers, providing an **environmentally friendly solution** without compromising shooting performance



Our patented biopolymer is specially developed to ensure high performance and biodegradability under a **wide range of climatic and soil conditions**

These **bio-based** materials are exclusively manufactured by **NUREL biopolymers** and are designed to be **biodegradable in soil**

Our biopolymers are designed to comply with **relevant standards** and meet **specific requirements** for bio-based content and biodegradability

## CERTIFICATION MATTERS: TÜV AUSTRIA OK biodegradable SOIL

NOVIZON® wads are TÜV AUSTRIA OK biodegradable SOIL certified, meaning the finished product, not only the raw material, has been independently verified. Certification is essential to ensure that both the raw material and the wad biodegrade in soil as reliably as natural elements such as a fallen chestnut, tree bark, or a branch.



### OK biodegradable SOIL

OK biodegradable SOIL is a third-party certification based on ISO 17556, assessing biodegradation in soil under controlled conditions. It verifies complete biodegradation within 2 years, with checks to ensure no toxic residues and no adverse impact on soil quality.

# NOVIZON® WADS BIODEGRADATION IN SOIL PROCESS

The panels below illustrate the **typical stages of our wads biodegradation** under natural soil exposure, from initial surface changes to near-complete biodegradation. **Biodegradation rates vary** depending on **soil type, moisture, temperature, oxygen availability**, and the presence and activity of **microorganisms**, as well as factors such as **pH** and **nutrient levels**.



## BEFORE SOIL EXPOSURE

NOVIZON® shotshell wads are made from certified soil-biodegradable biopolymers, engineered to deliver full performance before disposal.



## EARLY SOIL BIODEGRADATION (≈ 3 MONTHS)

After soil exposure, microorganisms begin to act on the material. Initial surface changes become noticeable.



## ACTIVE SOIL BIODEGRADATION (≈ 6 MONTHS)

Biodegradation accelerates and the structure starts to weaken. Material fragmentation appears while the wad remains recognizable.



## ADVANCED SOIL BIODEGRADATION (≈ 8–9 MONTHS)

Cracks and breaks expand across the surface. The original geometry begins to collapse as brittle fragments detach.



## LATE SOIL BIODEGRADATION (≈ 12–15 MONTHS)

The wad loses most of its structural integrity. Material breaks down into irregular pieces and soil-like particles.



## NEAR-COMPLETE SOIL BIODEGRADATION (≤ 24 MONTHS)

Under certified soil conditions, NOVIZON® wads biodegrade almost completely, leaving no persistent plastic residues.

## WAD & CARTRIDGE PERFORMANCE TEST

Wad & cartridge **testing for speed and pressure** is a critical process in ammunition development and quality assurance:

► It ensures cartridges operate within **safe pressure limits** to avoid firearm damage or injury

► It verifies **consistent velocity** and **ballistic performance** in line with design specifications

► It confirms **compliance with relevant industry standards**.

	V1	P1	Shot size
	[m/s]	[bar]	[#]
C12 A24	410	545	7
C12 A32	420	705	7

NOVIZON® wads are engineered to deliver **reliable cartridge** performance and **support safe ammunition** function.

## CUSTOM COLOURS & TAILOR-MADE WAD SOLUTIONS

NOVIZON® wads offer the possibility to **customize colours for better visual integration in specific environments**, reducing their impact on the landscape.

Additionally, we provide **tailor-made design solutions**, developing new wad models adapted to different cartridge types and performance requirements.



## CIP APPROVED

NOVIZON® wads have been tested and **meet CIP standards**. Cartridges tested and compliant with CIP standards ensure **safe pressure levels, consistent velocity and reliable performance**.



## COMPATIBLE SHOT TYPES

NOVIZON® wads are engineered for **compatibility with standard and premium shot materials** used in hunting, maintaining dimensional stability, consistent obturation and reliable ballistic performance across a wide range of load configurations.

STEEL

BISMUTH

TUNGSTEN

LEAD

## AVAILABLE FORMATS

Our range covers the most common 12 and 20 gauge wad formats, engineered for **all shot types**, including **steel**, **lead**, **bismuth** and **tungsten**, delivering consistent ballistic performance alongside **certified soil biodegradability**.

CASE		Oz	g
2 3/4"	70 mm	7/8	24
2 3/4"	70 mm	1 1/16	30
2 3/4"	70 mm	1 1/8	32
3"	76 mm	1 1/4	35



12 ga

A17 | A19  
P28 | P30



12 ga

A21 | A24  
P32 | P36



12 ga

A28  
P40 | P48



12 ga

A32  
P50 | P54



12 ga

A34



12 ga

A36



20 ga

A28  
P36 | P40



20 ga

A24  
P32 | P34

● Steel Shot    ● Lead Shot

# NOVIZON®



SCAN FOR MORE INFO



[www.novizon-wads.com](http://www.novizon-wads.com)

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