

THE RIGHT MEDIA FOR THE WRONG JOB

NU-SOFT STEEL SHOT APPLICATION GUIDE

Standard steel shot is built to be aggressive. For structural steel, heavy castings, and surface prep before coating, that aggression is exactly what you need. But a large number of blasting applications don't need aggressive media. They need cleaning, scale removal, deburring, and surface maintenance, without changing the part in any way.

That's the specific problem Nu-Soft Steel Shot was built to solve.

At less than 20 Rockwell C hardness, Nu-Soft is among the softest metallic blast media on the market. It's fully spherical, ultra-low in carbon, and equal in density to standard steel shot. That last point matters: Nu-Soft works in the same centrifugal wheel machines and air blast cabinets you already run. No new equipment. No process overhaul.

GMA Industries has distributed Nu-Soft exclusively since 2003, developed in partnership with Ervin Industries, manufactured at their ISO-certified facility in Tecumseh, Michigan. If your current media is damaging parts, generating excessive dust, or wearing out tooling, there's a good chance Nu-Soft is the answer.



THE DUST PROBLEM

• *BLASTING ALUMINUM WITH STEEL SHOT CREATES A FIRE RISK*

Standard steel shot striking an aluminum surface removes material aggressively. The particles that break off are fine, lightweight, and airborne. OSHA classifies aluminum as a combustible dust. Under the right conditions, accumulated aluminum dust in a facility atmosphere can ignite.

Nu-Soft operates below 20 Rc, softer than aluminum in most applications. It removes oxidation, release agents, and surface residue without generating the fine aluminum particles that standard steel shot produces when blasting aluminum. It also preserves any markings or etchings on the surface that standard shot would destroy.

**If your team is blasting aluminum parts,
this is worth a conversation with your EHS manager.**



THE TOOLING PROBLEM

● AGGRESSIVE MEDIA WEARS DOWN TOOLS THAT COST THOUSANDS TO REPLACE

Molds, extrusion dies, and production tooling need periodic cleaning. The problem is that any media with too much bite will alter surface profiles, erode die openings, or damage fine detail work. For an extrusion die, even minor erosion of the opening changes the shape of every profile it produces.

Nu-Soft cleans mold release buildup, oxidation, and production residue without touching the surface beneath it. It won't remove base metal or alter dimensional tolerances.

Nearly all U.S. aluminum extruders now use Nu-Soft to clean their dies. The reason is simple: it's the only metallic media that cleans without changing the dimensions that matter.



THE PRECISION PARTS PROBLEM

● YOUR CLEANING PROCESS IS ALTERING PARTS THAT NEED TO STAY EXACT

Auto parts remanufacturers, disc brake caliper rebuilders, and powder metal component manufacturers all run into the same issue. The part needs cleaning, but standard shot is texturizing machined surfaces, degrading thread tolerances, or work hardening areas that need to stay dimensionally stable. Rework and re-machining follow.

Nu-Soft won't work harden workpieces. It won't texturize polished or machined surfaces. It won't degrade thread tolerances. It removes scale, burrs, and surface contamination, and nothing else.

Applications where our team sees this most often:

- Engine block and cylinder head finishing for automotive parts remanufacturers
- Heat treat scale removal from engine valves
- Carbon buildup removal from engine valves
- Disc brake caliper cleaning where thread damage is a recurring problem
- Aluminum die casting deflashing without surface distortion
- Forged bearing cap and CV joint component finishing
- Plated fastener refinishing
- Aluminum automotive wheel refinishing
- Powder metal component cleaning where tight dimensional requirements apply



THE PAINT FIXTURE PROBLEM

● HEAVY PAINT BUILDUP THAT STANDARD BLASTING WON'T TOUCH



Automotive assembly plants and large suppliers use hooks and fabricated fixtures to run parts through paint booths. Heavy multi-layer buildup eventually needs to come off completely. Chemical stripping works, but it takes time and introduces handling and disposal costs. Standard blast media often doesn't remove heavy residue cleanly, and harder media risks damaging the fixture itself.

GMA tested Nu-Soft specifically for this application. Its density, equal to standard steel shot, gives it the mass to strip paint effectively. Its low hardness leaves the fixture material underneath intact. Fixtures come out clean and go directly back into service.

THE DEBURRING PROBLEM

• VIBRATORY FINISHING IS LODGING MEDIA AND DISTORTING PARTS

Thin stamped metal components, bearing cages, precision fabrications, and delicate stampings all need sharp edges removed before assembly. Vibratory finishing is the traditional method, but it creates its own problems. Finishing media lodges in tight part geometry and can't be removed. Thin parts distort under the motion of the machine. Cycle times run long relative to the result.

Nu-Soft removes sharp edges cleanly in a tumblast machine. The fully spherical particles don't catch or wedge in complex part geometry the way irregularly shaped vibratory media does. Because the hardness stays below 20 Rc, the part surface itself isn't affected by the process. Only the edges that need to come off do.

One bearing cage manufacturer switched from vibratory finishing to wheel blasting with Nu-Soft NS-110 for exactly this reason. The result was clean burr removal with no media lodging and no deformation, problems that had been driving an excessive defect rate under the previous process.



HOW NU-SOFT COMPARES

MEDIA	HARDNESS	CYCLE LIFE	DENSITY	EQUIPMENT
NU-SOFT STEEL SHOT	Under 20 Rc / 12-15 HRC	30%-50% longer than standard SAE steel shot (Ervin Industries)	7.4 g/cc	Air blast or centrifugal wheel
ZINC SHOT	90 HK (approx. 9 Rc)	~12,000 cycles (Transmet)	~7.1 g/cc	Air blast or centrifugal wheel
STANDARD SAE STEEL SHOT	42-65 Rc	Baseline	7.4 g/cc	Air or centrifugal wheel
STAINLESS SHOT	20 Rc*	Similar to standard shot	7.0 g/cc	Air or centrifugal wheel
CERAMIC BEADS	60-65 Rc	Significantly shorter	3.7 g/cc	Air or centrifugal wheel

***Stainless shot work hardens to 60 Rc during use.**

Cast zinc shot is the most direct competitor to Nu-Soft for non-destructive blasting applications. At roughly three times the cost of Nu-Soft, the price difference alone makes Nu-Soft the stronger consideration for most operations. Nu-Soft's density matches standard steel shot at 7.4 g/cc, meaning it runs in existing centrifugal wheel machines with no amperage drop and no adjustments needed. It also almost totally eliminates wear on blast machine components including blades, impellers, control cages, and liners. For ferrous parts, mold and die maintenance, and precision machined surfaces, Nu-Soft is the preferred choice on both performance and cost savings.

One additional benefit worth noting: Nu-Soft almost totally eliminates wear and tear on blast machine components, including blades, impellers, control cages, and liners. For operations running high blast volumes, that reduction in equipment wear is a meaningful secondary cost saving.

Zinc Shots are

3X THE

PRICE

Nu-Soft Shots

REAL APPLICATIONS ●

REAL RESULTS

GMA Industries has documented Nu-Soft performance across industries including automotive, aerospace, mold maintenance, and precision manufacturing. Scan to read the full case study library.

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NOT SURE IF NU-SOFT IS RIGHT FOR ●

YOUR APPLICATION?

Every application is different. Contact our team to discuss your specific parts, request a sample, or arrange testing before you commit to a switch.

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