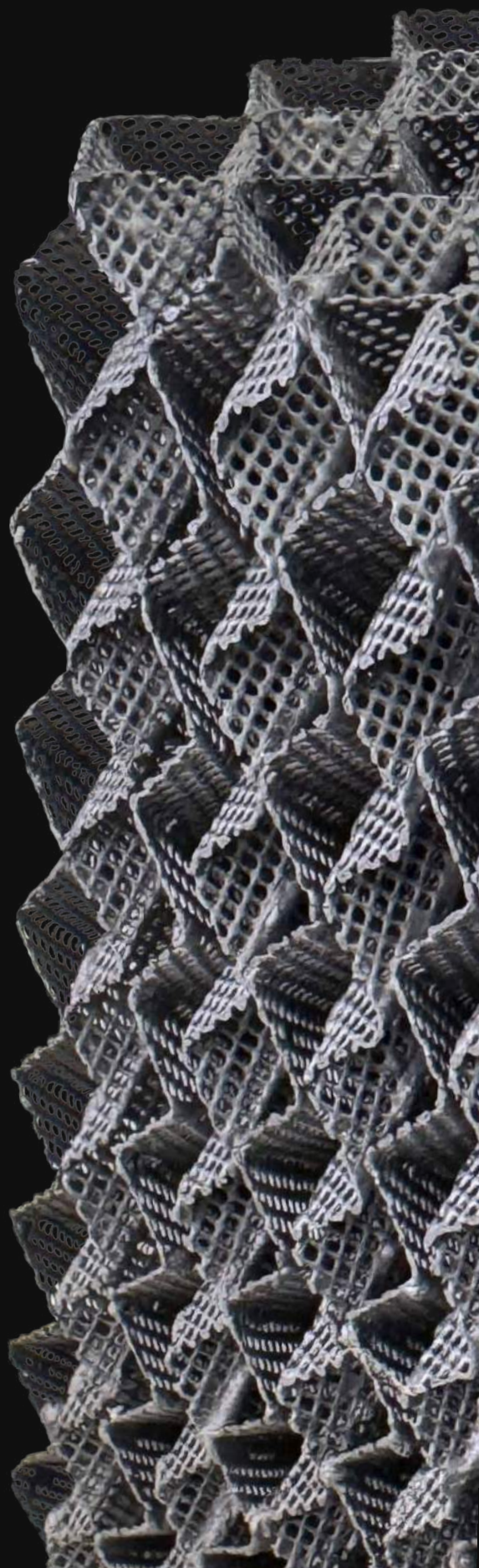




SILICON CARBIDE CERAMIC

Wire Mesh Structured Packing

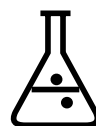
Extreme Corrosion Resistance
at Extreme Temperature





Sintered SiC

Silicon Carbide (SiC) wire mesh is sintered at 1400°C without binders to create a monolithic ceramic structure.



Corrosion Resistance

Outstanding resistance to aggressive acids including nitric acid, sulfuric acid, hydrochloric acid, hydrofluoric acid.



WIRE MESH STRUCTURE

Similar to metal wire mesh packing, maximized efficiency.

The World's First

Silicon Carbide (SiC) ceramic wire mesh structured packing combines the corrosion resistance of technical ceramics with the geometric precision of woven metal mesh. Made with almost entirely SiC and sintered at 1400°C with zero glue, it eliminates the corrosion seen in Hastelloy, Monel and steel mesh while retaining low pressure drop and high mass-transfer efficiency.

Proven in the Field / Case Studies

Across acids including nitric acid, sulfuric acid, hydrochloric acid, hydrofluoric acid and high-temperature services where alloy and traditional ceramic packing failed within months, SiC packing has continued operating without measurable corrosion for years.

Medium	Temp.	Issue with Original Packing	 Result with SiC Packing
Sulfuric + Nitric acid	≥180°C	Glass packing: high pressure drop, low efficiency	In service for 3+ years to date; corrosion resistant, lower ΔP, with improved efficiency
Acidic + Chloride ion	≥150°C	Traditional ceramic packing unusable; Hastelloy packing failed after only 3 months	Matches Hastelloy performance — more than 5 years of continuous operation
Organic Polyacid	≥140°C	Hastelloy packing lasted only 1–1.5 years; high replacement cost	Over 4 years in service with no visible corrosion, continue operation to date
Acidic + Bromide ion	≥150°C	Traditional ceramic packing degraded to powder; metal packing had short service life	2 years in service with stable operating parameters
PTSA	≥150°C	Hastelloy packing service life under 2 years	No visible corrosion, still in reliable operation
Hydrofluoric Acid (HF)	≥130°C	PTFE packing softened and collapsed at high temperature	High efficiency, low ΔP, intact for 3+ years and continuing
Mildly Corrosive Media	≥140°C	Metal packing near the distributor corroded, contaminating final product	Corrosion eliminated, final product quality improved



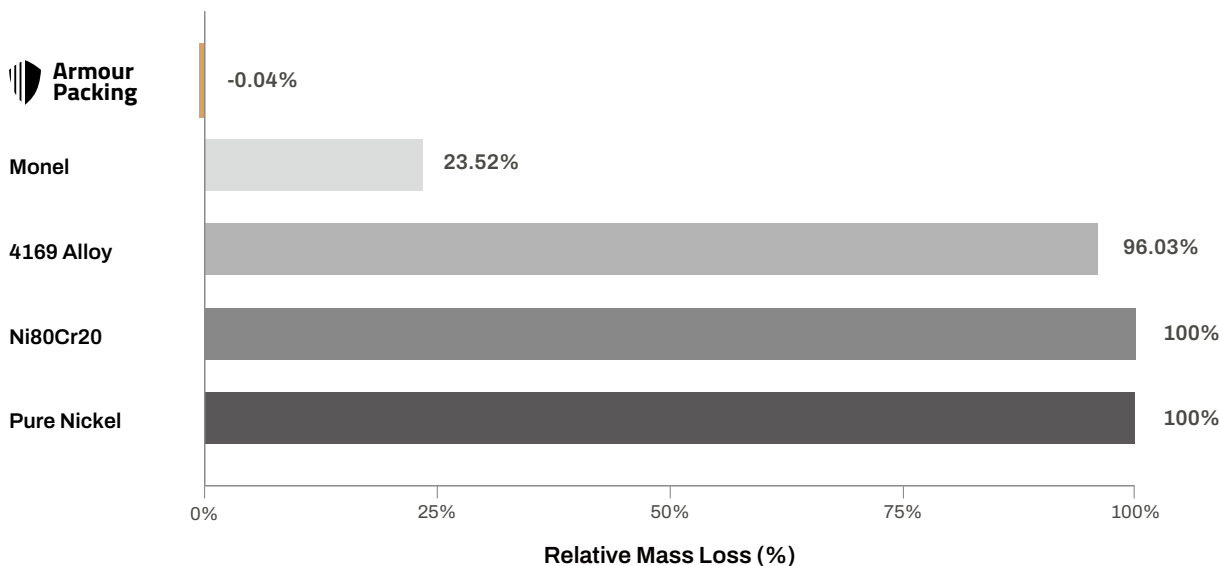
Up to 6+ Years of Reliable Performance

SiC ceramic wire-mesh structured packing delivers extended service life in aggressive environments where metals and polymers fail.

Near-Zero Corrosion, Verified

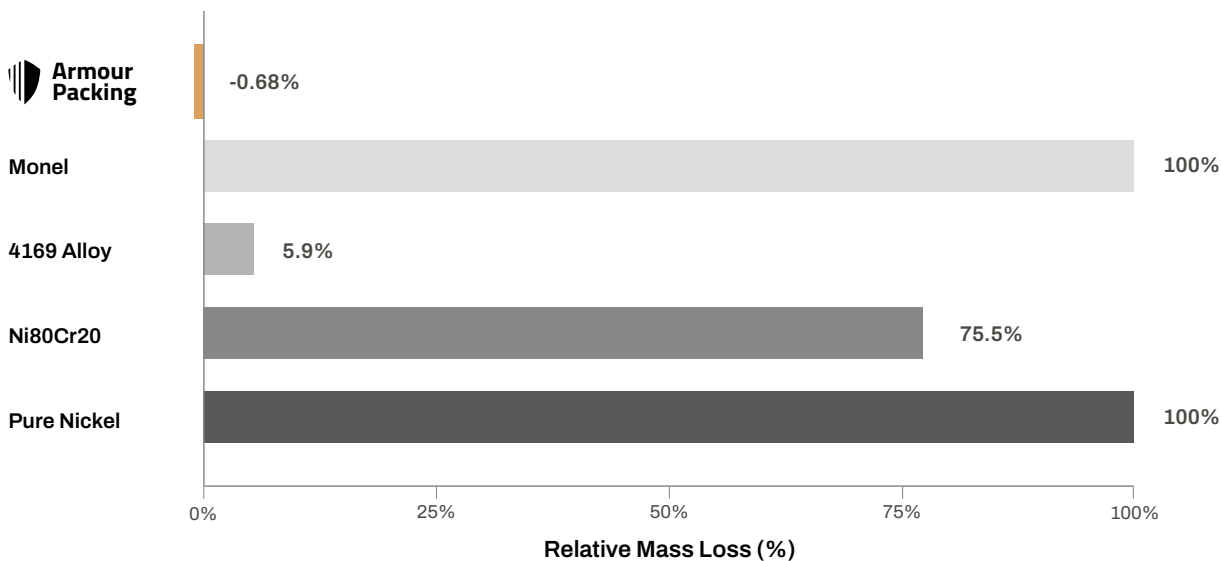
Test #1

Formic Acid (98%) + Water + HCl (36.5%) with mass ratio = 15:15:5
130°C reactor, 72 hours



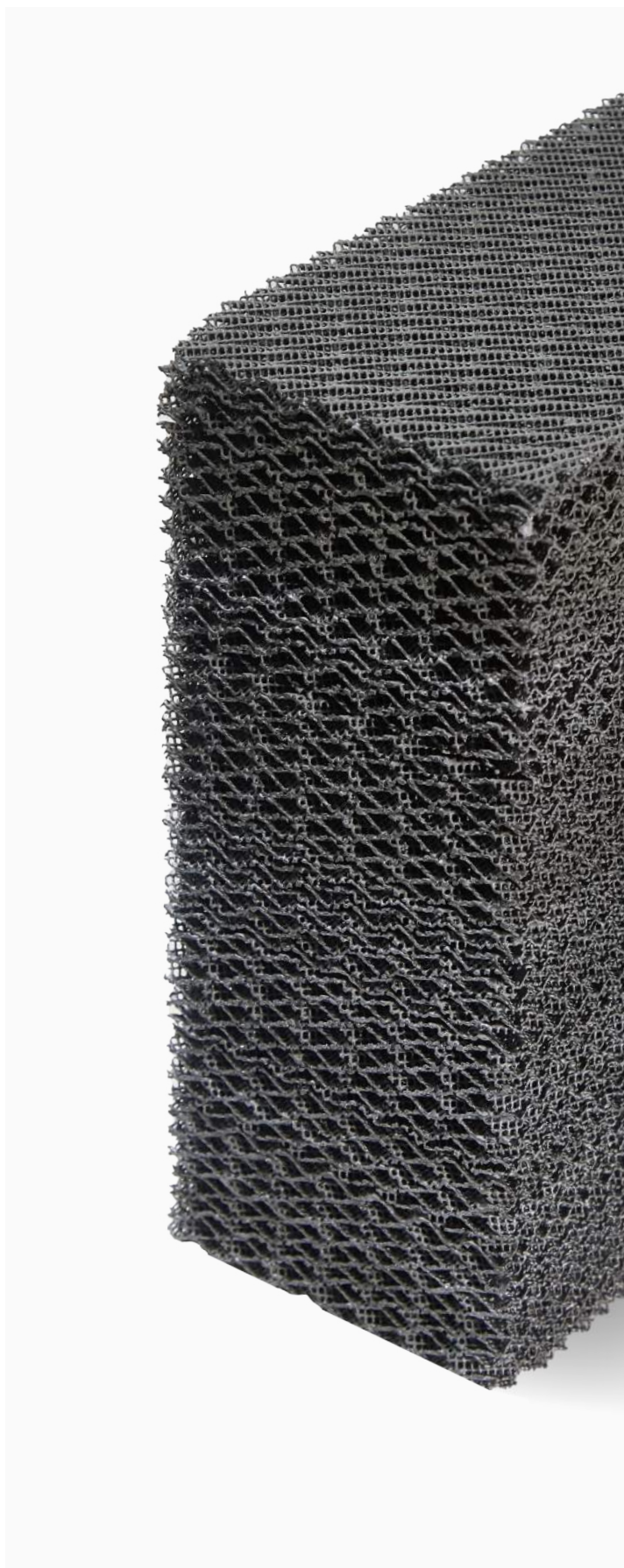
Test #2

H₂SO₄ (98%) + HNO₃ (64%) with mass ratio = 1:3
130°C reactor, 120 hours



Under accelerated testing in formic acid / HCl and sulfuric / nitric acid at 130°C, SiC packing showed almost no measurable corrosion, while alloys corroded severely.

Structure & Specifications



Armour SiC packing is sintered at 1400°C. After sintering, each layer is then bonded closely, forming a one-piece rigid structure.

Property	Value
Material	SiC ceramic
Pore size	1mm x 1mm
Max. temp.	700°C
Resistance	All acids, and other organics
Size	One-piece packing up to 570mm diameter large diameter possible with assembly *small size also customizable

Common Models

- 350Y
- 500X
- 500Y
- 750Y
- 1000Y



Built to Outlast Alloys

Alloy packing corrodes within months to a couple of years in aggressive media. Armour SiC packing removes that trade-off entirely.

0

Measurable corrosion
in all common acidic media

6+ yrs

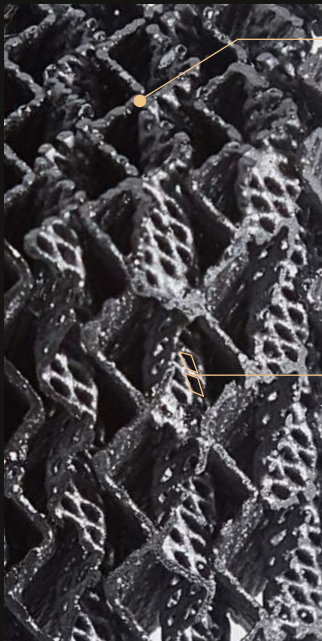
Documented service life,
still in operation

up to 800°C

Max. operating temperature,
depending on media concentration

- Longer service life than Hastelloy, Monel, nickel alloys
- No metal-ion contamination of product streams
- Withstands chloride, bromide, fluoride environment
- Tougher than glass and monolithic ceramic packing
- Much lower total cost of ownership
- Similar hydraulic performance to metal wire mesh packing

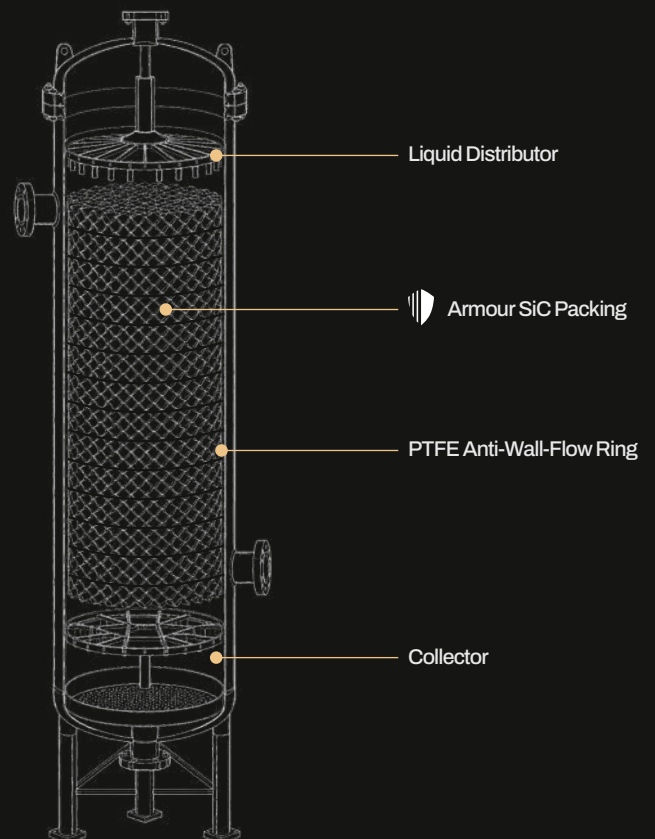
Wire-Mesh Element



Each layers sintered together
without any glue

Diamond-shaped
pore size (1mm)

Column Installation



Where It Is Used

Armour SiC packing is deployed in distillation, absorption and stripping columns handling the most corrosive process streams in the chemical industry.

- Sulfuric & nitric acid concentration and recovery
- Hydrochloric acid / chloride-bearing acid distillation
- Hydrofluoric acid (HF) processing
- Organic polyacid and PTSA distillation
- Bromide-containing acidic process streams
- Fine chemical & pharmaceutical purification
- Waste acid regeneration and recovery columns





Armour Packing

Extreme Corrosion Resistance at Extreme Temperature

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