GRANIC

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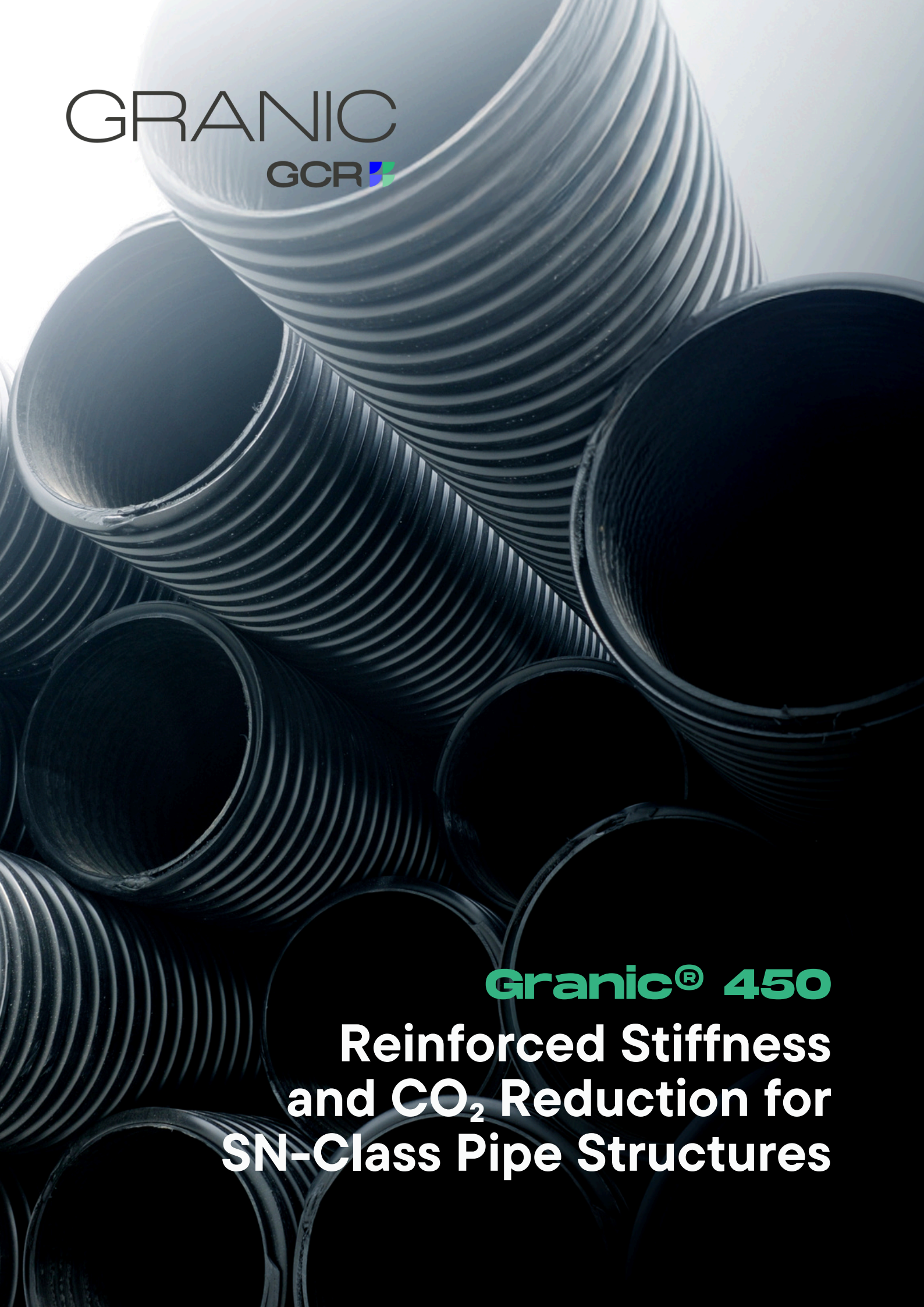


Granic® 450

Reinforced Stiffness and CO_2 Reduction for SN-Class Pipe Structures

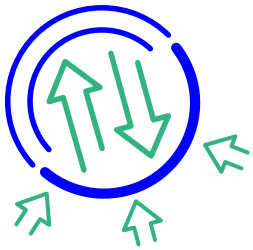
Discover Granic® 450

Reinforced Stiffness and CO_2 Reduction for SN–Class Pipe Structures

Better Ring Stiffness.
Improved Efficiency.
Lower Environmental Impact.

Granic® 450 is a high-performance talc-based masterbatch designed to reinforce **HDPE corrugated pipes**, particularly for **SN8 and SN16 stiffness classes**. It enhances **mechanical strength, dimensional stability, and processability**, enabling thinner, lighter pipe structures that meet or exceed ring stiffness and impact resistance requirements. By increasing compression and bending resistance while maintaining impact strength, **Granic® 450 delivers high performance without compromising durability.**

With **higher throughput** and reduced polymer usage, it also helps manufacturers boost efficiency and lower their environmental impact — supporting sustainability goals, including a **certified reduction in CO_2 emissions.**



Superior Ring Stiffness

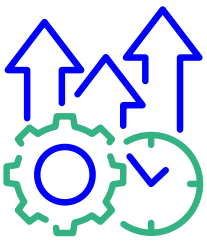
Achieve SN8 and SN16 classifications with thinner walls.

Boosts flexural modulus by up to 62%, reinforcing pipe structure without compromising impact resistance.

Lower Footprint. Higher Performance

Replace up to 25% virgin HDPE.

Reduce CO_2 emissions while improving processability and mechanical properties without compromising impact resistance



Productivity Gains

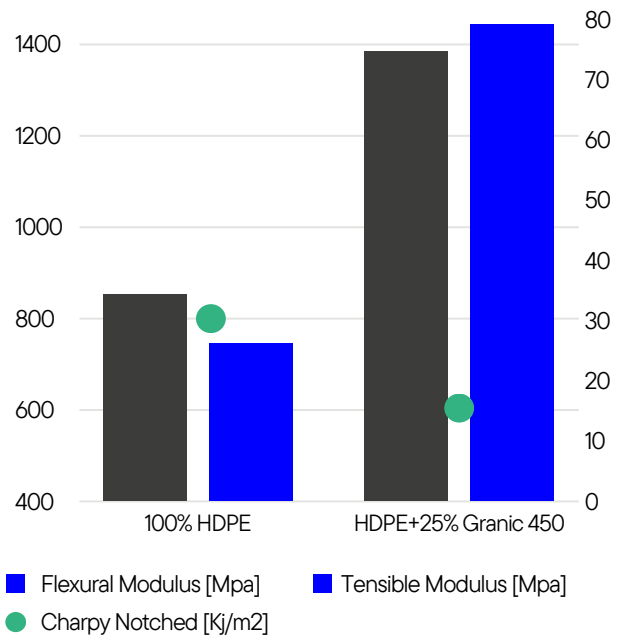
Higher output. Greater efficiency.

Improves extrusion stabilization, increases line speeds, and ensures consistent, energy-efficient production.

Discover Granic® 450

Proven Mechanical Reinforcement with Granic® 450

Granic 450 used at 25% compared to HDPE virgin



Granic® 450 delivers proven stiffness and stability gains in SN-16 and SN-8 class pipes with reduced polymer use and no compromise in impact resistance or processability.

+62% Flexural Modulus

- From **856 MPa to 1.392 MPa** with 25% Granic® 450.
- Reinforces ring stiffness and structural rigidity, essential for SN8 and SN16 compliance.

+92% Tensile Modulus

- From **747 MPa to 1.449 Mpa.**
- Boosts circumferential rigidity and long-term mechanical stability.

Maintained Impact Resistance

- **Charpy Notched Impact**: Fully meets ISO 179 for SN16 pipes while delivering stiffness gains.

Additional Performance Benefits

- **Enhanced Dimensional Stability** Better resistance to deformation over time and under stress.
- **Thermal Shrinkage Control** Improved thermal behavior during cooling and post-processing.
- **Cost Optimization** Lower polymer usage while improving quality and stiffness.

Process & Productivity Benefits

Feature	Benefit
Higher thermal conductivity	Faster heating/cooling improves corrugator efficiency.
Improved processability	Faster extrusion stabilization, quicker startup and changeovers.
Higher Line Speeds	Enables greater productivity and throughput.
Low Moisture Content	Prevents talc-related humidity issues during processing.
Dimensional stability	Helps maintain surface quality and dimensional control.
Stable Extrusion	Reduces variation and improves repeatability in production.

Lower Environmental Impact

Sustainability

Granic® 450 reduces both CO_2 emissions and virgin polymer use with no loss of performance.

- **12%* CO_2 reduction** in typical pipe structures (Certified under ISO 14067:2018, Evaluation Period 2024)
- **Up to 25% virgin HDPE replaced** in the outer layer
- **Lower energy** use thanks to faster cooling and shorter cycles
- Supports regulatory and sustainability targets

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Product Carbon Footprint
Regular Surveillance
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ID 9105057179

Application Scope:

- Two-layer HDPE corrugated pipes
- SN8 (large diameter), SN16 (small diameter) sewer and drainage systems
- Outer layer dosage: 25%
- Structure: Outer (70%) / Inner (30%)
- Color: Dark grey

Why Granic® 450?

- Designed for SN8 and SN16 compliance
- Improves strength, stability, and processability
- Supported by GCR's Innovation Hub for trials, testing, and technical guidance
- Proven in industrial-scale pipe production
- Backed by reliable supply and logistics across Europe

Ready to Reinforce Your Pipes?

Contact our team to learn more about how **Granic® 450 can optimize your corrugated pipe formulations.**

Do you want a sample?

Contact us now!

GCR, Your Trusted Partner for Sustainable Plastic Solutions

GCR

Innovating
our sustainable
tomorrow

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