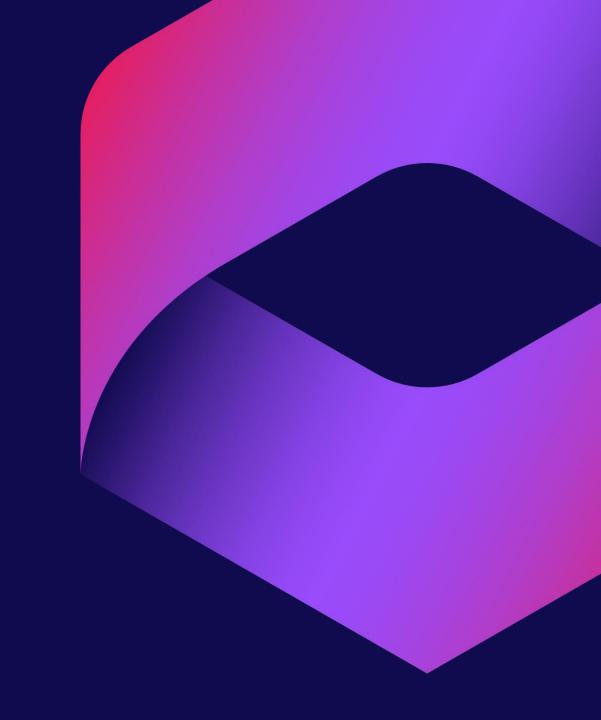
Magnera Pasting Solutions – old strength, new paths

Fenibat, May 2025



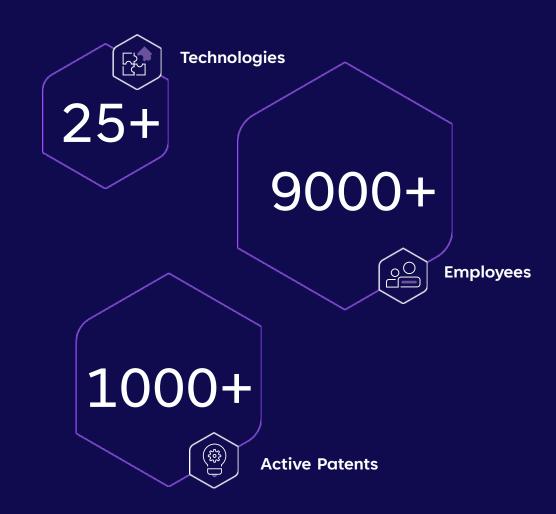


Glatfelter now belongs to Magnera

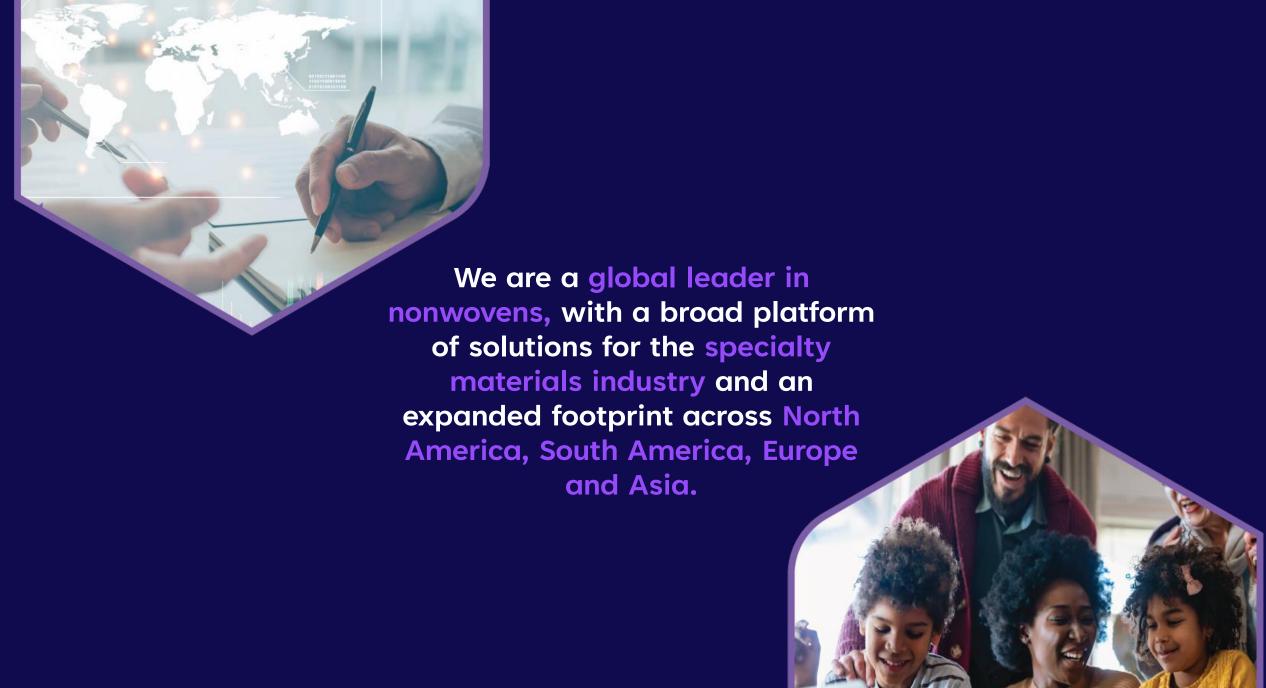


By the numbers







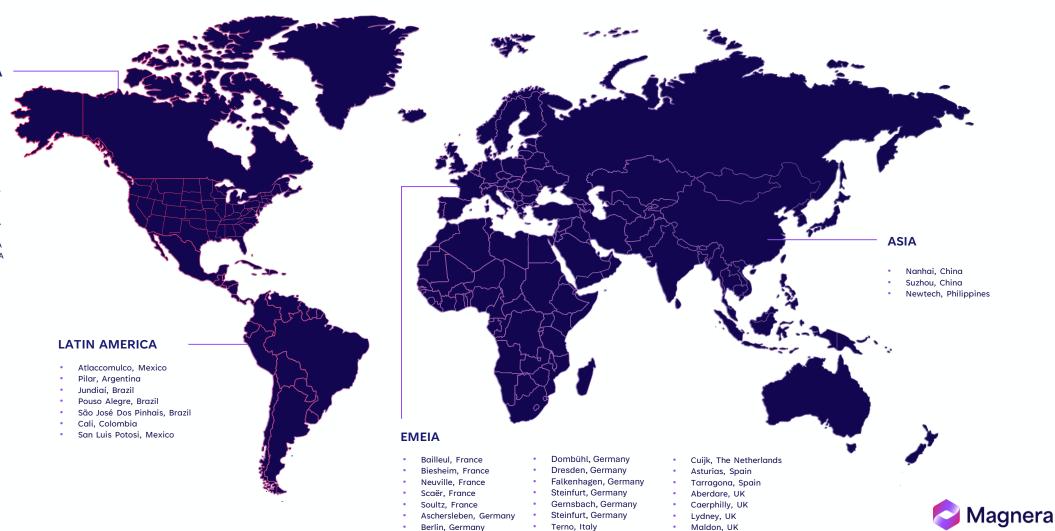


Our footprint

The scale to serve you better

NORTH AMERICA

- Gatineau, Canada
- North Bay, Canada
- Asheville, USA
- Augusta, KY USA
- Benson, NC USAFort Smith, USA
- Madison, USA
- McAlester, OK USA
- Mooresville, NC USA
- Mount Holly, USA
- Nashville, TN USAOld Hickory, TN USA
- Statesville, NC USA
- Washington, GA USA
- Washington, GA 03
- Waynesboro, VA USA



Pasting paper production



Pasting paper production

- All pasting papers are produced at Glatfelter Gernsbach GmbH in Germany
- Pasting Papers from Gernsbach are IATF certified

- Our focus is on high and constant product quality



Pasting paper production

Important for good pasting paper:

- Selection of the proper raw material
 - Low impurity level
 - Softwood fibers
 - Specific synthetic fibers for NG grades
 - No binders
 - → Good runnability and no impact on self-discharge
- Paper machine design
 - Inclined wire machine for homogeneous fiber distribution
 - Through Air Drying for high air permeability
 - → Perfect adhesion of the paper to the paste/plate in wet and dry condition



Unique Raw Material for electrical applications



E-PulpCellulose

Man-made fibers
Special Synthetic Fibers



Bales



Fiber Mixtures



Inclined Wire Technology and Through Air Drying





Advantage of a good pasting paper

Runability

- Higher machine speed
- No peeling in the flash oven
- Best adhesion of the paper to the plate during assembling

Energy

Lower energy consumption due to high air permeability

Safety

Less lead emission during the production



DYNAGRID® Product Range:

Dynagrid®

Standard Pasting Paper:

- fundamental to smooth and trouble-free production
- 100 % Cellulose

Magneras unique capability delivers pasting paper with:

- High air permeability: Excellent adhesion of paper to paste
- Homogenious Formation: No bleed-through of paste.
- Efficient transport of moisture through paper

Dynagrid® NG

Improved Battery Performance:

- For Start-Stop batteries
- For hot climate
- For poor road conditions



DYNAGRID® - Facts Sheet

 Magnera produced > 6.600 tons of pasting paper in 2024

Magnera has around 100 active battery customers

Magnera is the biggest pasting paper and pasting web producer

 Glatfelter is IATF certified for its pasting paper production in Gernsbach





Composite Scrim:

Improving Battery Performance through Dynagrid® 328/NG and Dynagrid® 324/NG





DYNAGRID®NG

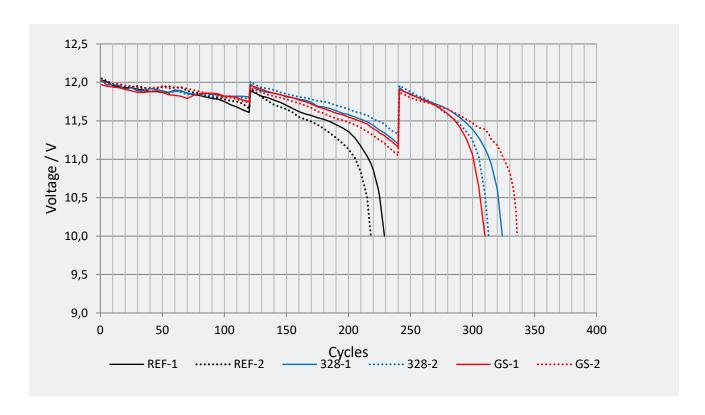
Extending battery life

How it works What it is **Benefits** » Cellulose fibers » Cellulose dissolves » Less shedding during cycling » Protection against vibration and » Synthetic veil remains on plate surface shock » Acid resistant fibers » Dynagrid® NG Protects integrity » Longer Battery Life of active mass



Results from IEES in Sophia

Cycle-life of 12 V batteries with similar and standard paste



	DEE	DEE	NG F 328	NG	GS	GS
	1	2	1	2	1	2
N(max)	229	218	324	313	310	336
N(ave)		224		319		323
%				42 %		44 %

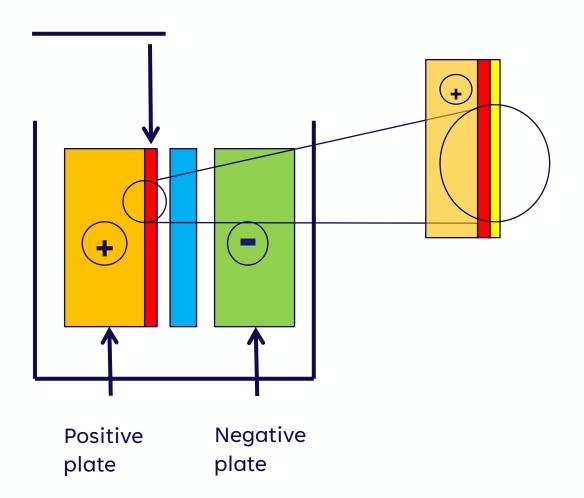
IEES Study of Cycle Lifetime Extension of SLI Batteries



Dynagrid® NG - Basic Principle during Battery Operation

Cellulosic layer dissolves during battery operation

Synthetic layer remains in position on plate surface reinforcing the PAM





INNOVATION:

Light weight positive plate

A new approach to save lead with Dynagrid NG



The Proof of Concept Study

Experimental Procedure

Together with the German battery producer MOLL we have shown, that it is feasible to save lead when using the Dynagrid NG

Various test cells were built to compare the standard design with the light weight design

=> Tear down has shown that plates using the Dynagrid NG were in much better condition after the cycling





Together, we can make possibilities real.

For more details, please join us at Booth J01



Magnera | Possibilities Made Real