

Sterra™ portfolio

Overview of carbon emissions
reduction potential



Recycled engineering plastics for a more sustainable future



Recycled engineering plastics significantly contribute to reducing carbon footprints by lowering the demand for virgin plastic production, which is energy-intensive and generates high levels of greenhouse gas emissions. A circular approach minimizes waste sent to landfills, decreasing methane emissions and helps reduce the carbon footprint that is associated with plastic disposal even further.

Moreover, using recycled plastics in engineering applications can offer the same performance as new materials, fostering a more sustainable manufacturing cycle and contributing to a cleaner, greener environment.

Statera™ and Sterra™

Mitsubishi Chemical Group has introduced its Statera™ offering of circular solutions including the Sterra™ portfolio of engineering polymer products with recycled content, which contribute to considerable carbon footprint reduction.

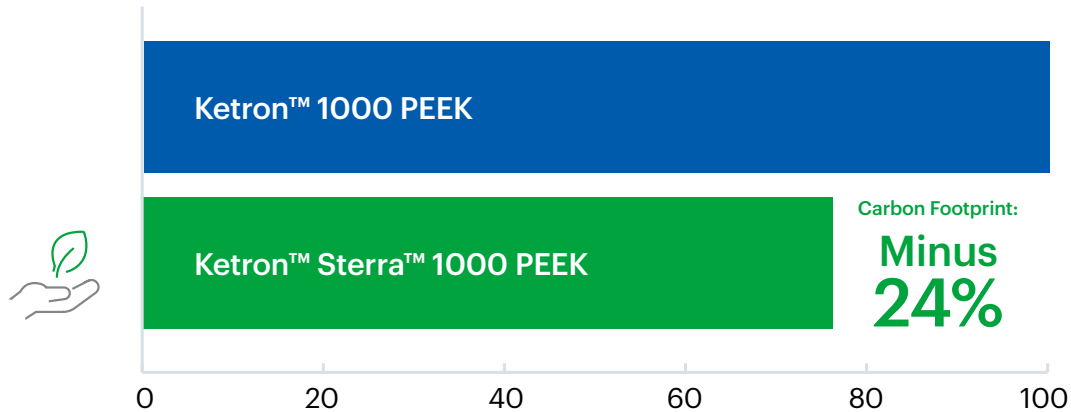


Sterra™ portfolio – Overview

AEP*	GEP*	Polyethelene*
Ketron™ Sterra™ CA30 PEEK 70% recycled content 38% reduced Product Carbon Footprint	Acetron™ C Sterra™ POM-C black 100% recycled content 77% reduced Product Carbon Footprint	TIVAR™ Sterra™ UHMW-PE green 70% recycled content 51% reduced Product Carbon Footprint
Ketron™ Sterra™ HPV PEEK 70% recycled content 47% reduced Product Carbon Footprint	Ertalyte™ Sterra™ PET-P black 100% recycled content 63% reduced Product Carbon Footprint	TIVAR™ Sterra™ ESD UHMW-PE 70% recycled content 50% reduced Product Carbon Footprint
Ketron™ Sterra™ 1000 PEEK 25% recycled content 24% reduced Product Carbon Footprint		TIVAR™ Sterra™ DrySlide UHMW-PE 70% recycled content 50% reduced Product Carbon Footprint

* Reduced carbon footprint values based on comparison with MCAM's manufactured material using 100% virgin resin.

Ketron™ Sterra™ 1000 PEEK vs. Ketron™ 1000 PEEK*

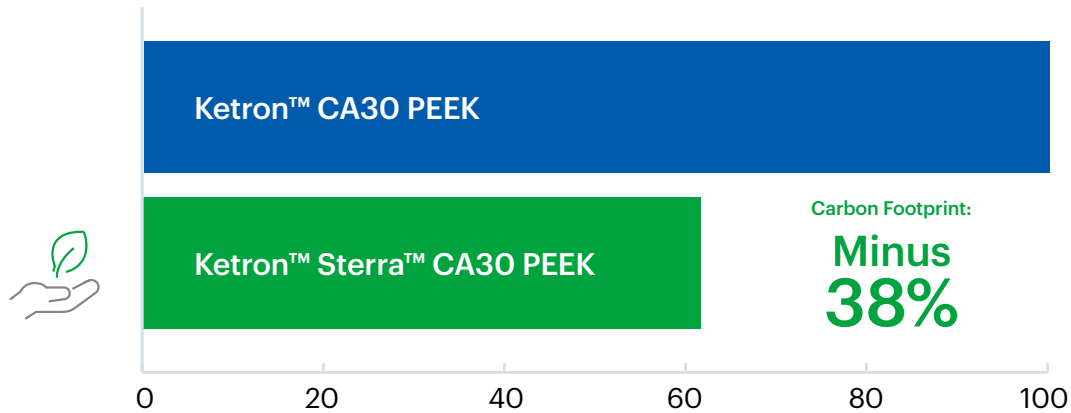


* Results based on comparison with MCAM's manufactured material using 100% virgin resin.
Measured unit: 1 kg of product

Ketron™ Sterra™ 1000 PEEK:

- 25% recycled content (post industrial material)
- ISO 14040/44 (ISO, 2006; ISO/TC, 2006) conform LCA study
- System boundary: Cradle to gate
- LCA results/background values are global averages and may be based on a varying number of manufacturing locations, incl. single location.
- A mass balance method according to ISCC PLUS standards is applied; certification is in place
- Mitsubishi Chemical Advanced Materials production sites for the manufacturing of this material are certified according to ISO 9001:2015 and ISO 14001:2015; production sites are using electricity from Renewable Sources (RE).

Ketron™ Sterra™ CA30 PEEK vs. Ketron™ CA30 PEEK*

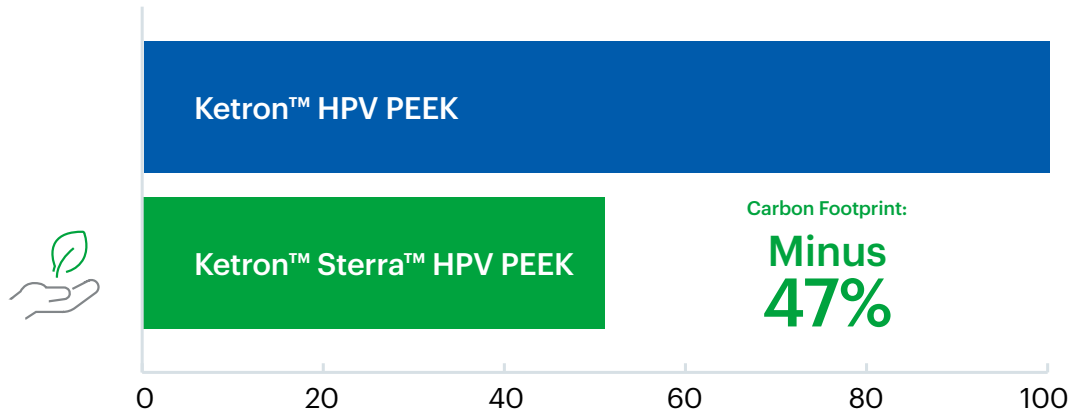


* Results based on comparison with MCAM's manufactured material using 100% virgin resin.
Measured unit: 1 kg of product

Ketron™ Sterra™ CA30 PEEK:

- 70% recycled content (post industrial material)
- ISO 14040/44 (ISO, 2006; ISO/TC, 2006) conform LCA study
- System boundary: Cradle to gate
- LCA results/background values are global averages and may be based on a varying number of manufacturing locations, incl. single location.
- A mass balance method according to ISCC PLUS standards is applied; certification is in place
- Mitsubishi Chemical Advanced Materials production sites for the manufacturing of this material are certified according to ISO 9001:2015 and ISO 14001:2015; production sites are using electricity from Renewable Sources (RE).

Ketron™ Sterra™ HPV PEEK vs. Ketron™ HPV PEEK*

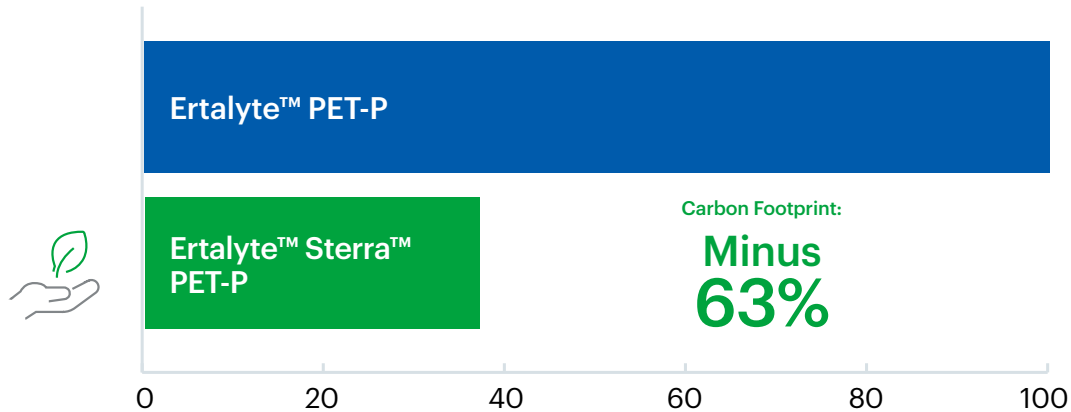


* Results based on comparison with MCAM's manufactured material using 100% virgin resin.
Measured unit: 1 kg of product

Ketron™ Sterra™ HPV PEEK

- 70% recycled content (post industrial material)
- ISO 14040/44 (ISO, 2006; ISO/TC, 2006) conform LCA study
- System boundary: Cradle to gate
- LCA results/background values are global averages and may be based on a varying number of manufacturing locations, incl. single location.
- A mass balance method according to ISCC PLUS standards is applied; certification is in place
- Mitsubishi Chemical Advanced Materials production sites for the manufacturing of this material are certified according to ISO 9001:2015 and ISO 14001:2015; production sites are using electricity from Renewable Sources (RE).

Ertalyte™ Sterra™ PET-P vs. Ertalyte™ PET-P*

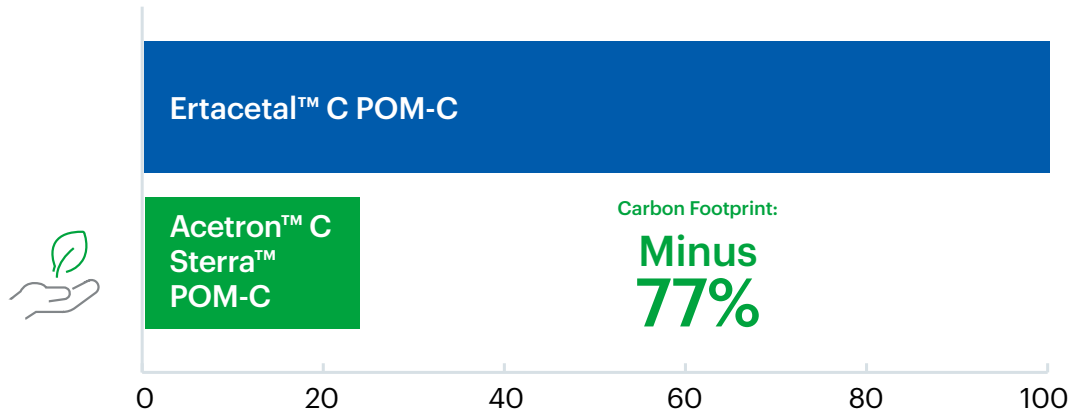


* Results based on comparison with MCAM's manufactured material using 100% virgin resin.
Measured unit: 1 kg of product

Ertalyte™ Sterra™ PET-P:

- 100% recycled content (post industrial material)
- ISO 14040/44 (ISO, 2006; ISO/TC, 2006) conform LCA study
- System boundary: Cradle to gate
- LCA results/background values are global averages and may be based on a varying number of manufacturing locations, incl. single location.
- A mass balance method according to ISCC PLUS standards is applied; certification is in place
- Mitsubishi Chemical Advanced Materials production sites for the manufacturing of this material are certified according to ISO 9001:2015 and ISO 14001:2015; production sites are using electricity from Renewable Sources (RE).

Acetron™ C Sterra™ POM-C vs. Ertacetal™ C POM-C*

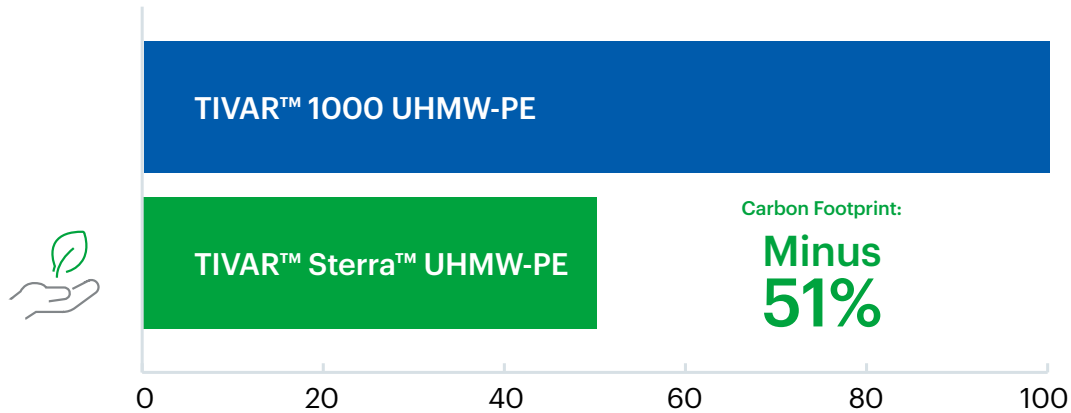


* Results based on comparison with MCAM's manufactured material using 100% virgin resin.
Measured unit: 1 kg of product

Acetron™ Sterra™ POM-C:

- 100% recycled content (post industrial material)
- ISO 14040/44 (ISO, 2006; ISO/TC, 2006) conform LCA study
- System boundary: Cradle to gate
- LCA results/background values are global averages and may be based on a varying number of manufacturing locations, incl. single location.
- A mass balance method according to ISCC PLUS standards is applied; certification is in place
- Mitsubishi Chemical Advanced Materials production sites for the manufacturing of this material are certified according to ISO 9001:2015 and ISO 14001:2015; production sites are using electricity from Renewable Sources (RE).

TIVAR™ Sterra™ UHMW-PE vs. TIVAR™ 1000 UHMW-PE*

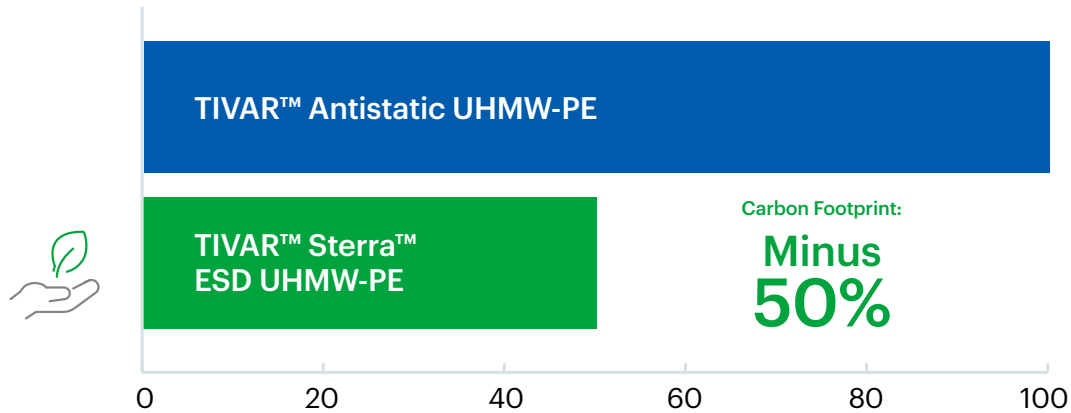


* Results based on comparison with MCAM's manufactured material using 100% virgin resin.
Measured unit: 1 kg of product

TIVAR™ Sterra™ UHMW-PE:

- 70% recycled content (post industrial material)
- ISO 14040/44 (ISO, 2006; ISO/TC, 2006) conform LCA study
- System boundary: Cradle to gate
- LCA results/background values are global averages and may be based on a varying number of manufacturing locations, incl. single location.
- A mass balance method according to ISCC PLUS standards is applied; certification is in place
- DQS Certificate ([iscc-system.org](https://www.iscc-system.org))
- Mitsubishi Chemical Advanced Materials production sites for the manufacturing of this material are certified according to ISO 9001:2015 and ISO 14001:2015; production sites are using electricity from Renewable Sources (RE).

TIVAR™ Sterra™ ESD UHMW-PE vs. TIVAR™ Antistatic UHMW-PE*

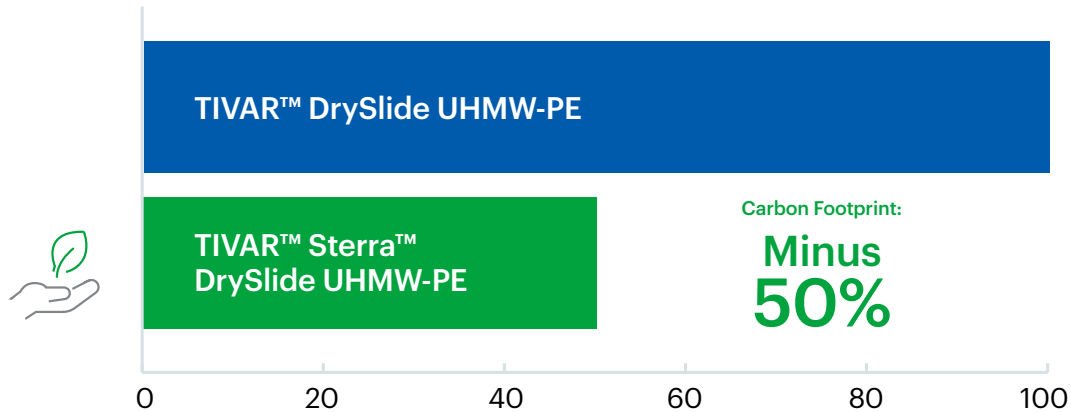


* Results based on comparison with MCAM's manufactured material using 100% virgin resin.
Measured unit: 1 kg of product

TIVAR™ Sterra™ ESD UHMW-PE:

- 70% recycled content (post industrial material)
- ISO 14040/44 (ISO, 2006; ISO/TC, 2006) conform LCA study
- System boundary: Cradle to gate
- LCA results/background values are global averages and may be based on a varying number of manufacturing locations, incl. single location.
- A mass balance method according to ISCC PLUS standards is applied; certification is in place
- DQS Certificate ([iscc-system.org](https://www.iscc-system.org))
- Mitsubishi Chemical Advanced Materials production sites for the manufacturing of this material are certified according to ISO 9001:2015 and ISO 14001:2015; production sites are using electricity from Renewable Sources (RE).

TIVAR™ Sterra™ DrySlide UHMW-PE vs. TIVAR™ DrySlide UHMW-PE*

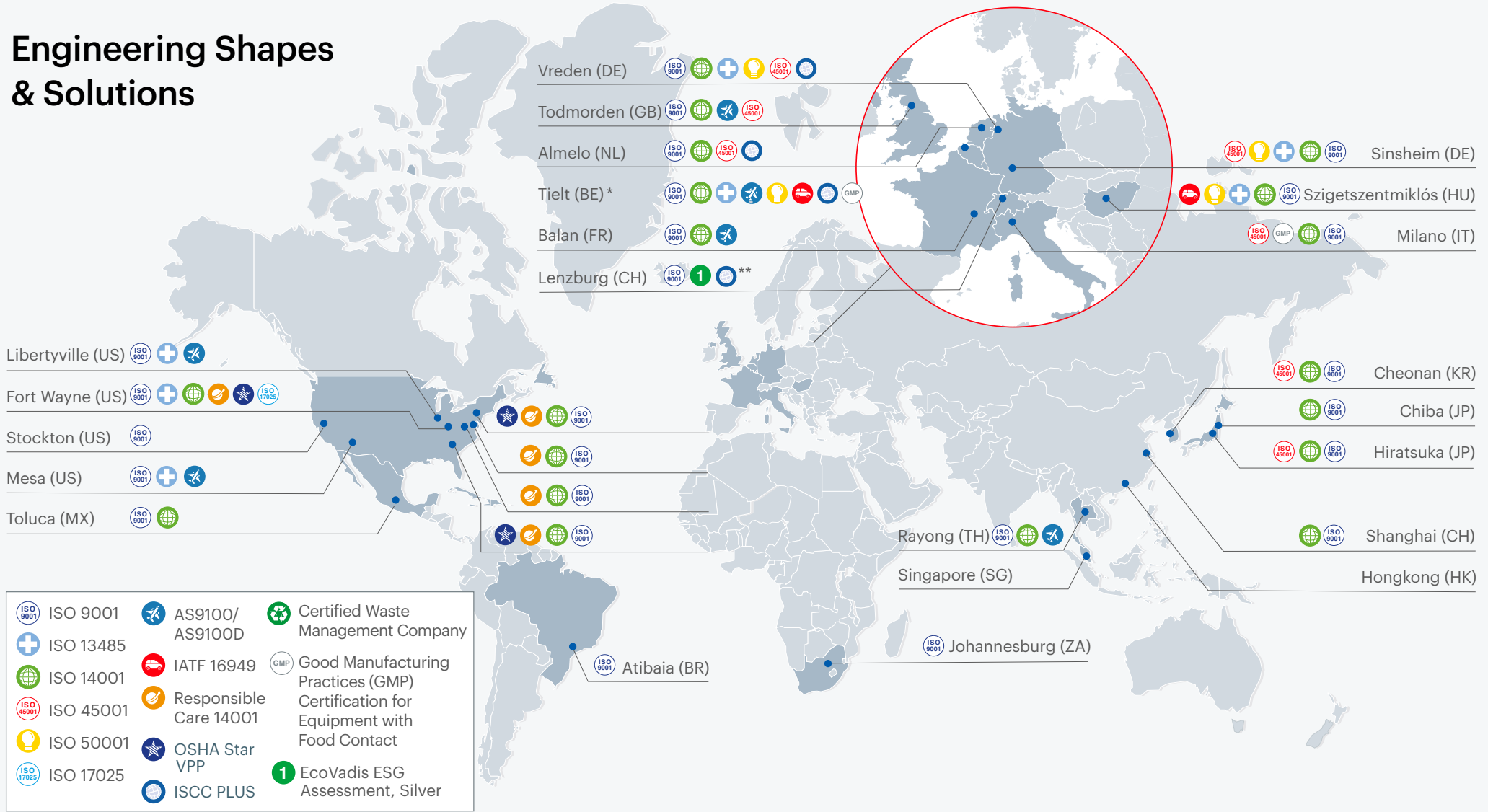


* Results based on comparison with MCAM's manufactured material using 100% virgin resin.
Measured unit: 1 kg of product

TIVAR™ Sterra™ DrySlide UHMW-PE:

- 70% recycled content (post industrial material)
- ISO 14040/44 (ISO, 2006; ISO/TC, 2006) conform LCA study
- System boundary: Cradle to gate
- LCA results/background values are global averages and may be based on a varying number of manufacturing locations, incl. single location.
- A mass balance method according to ISCC PLUS standards is applied; certification is in place
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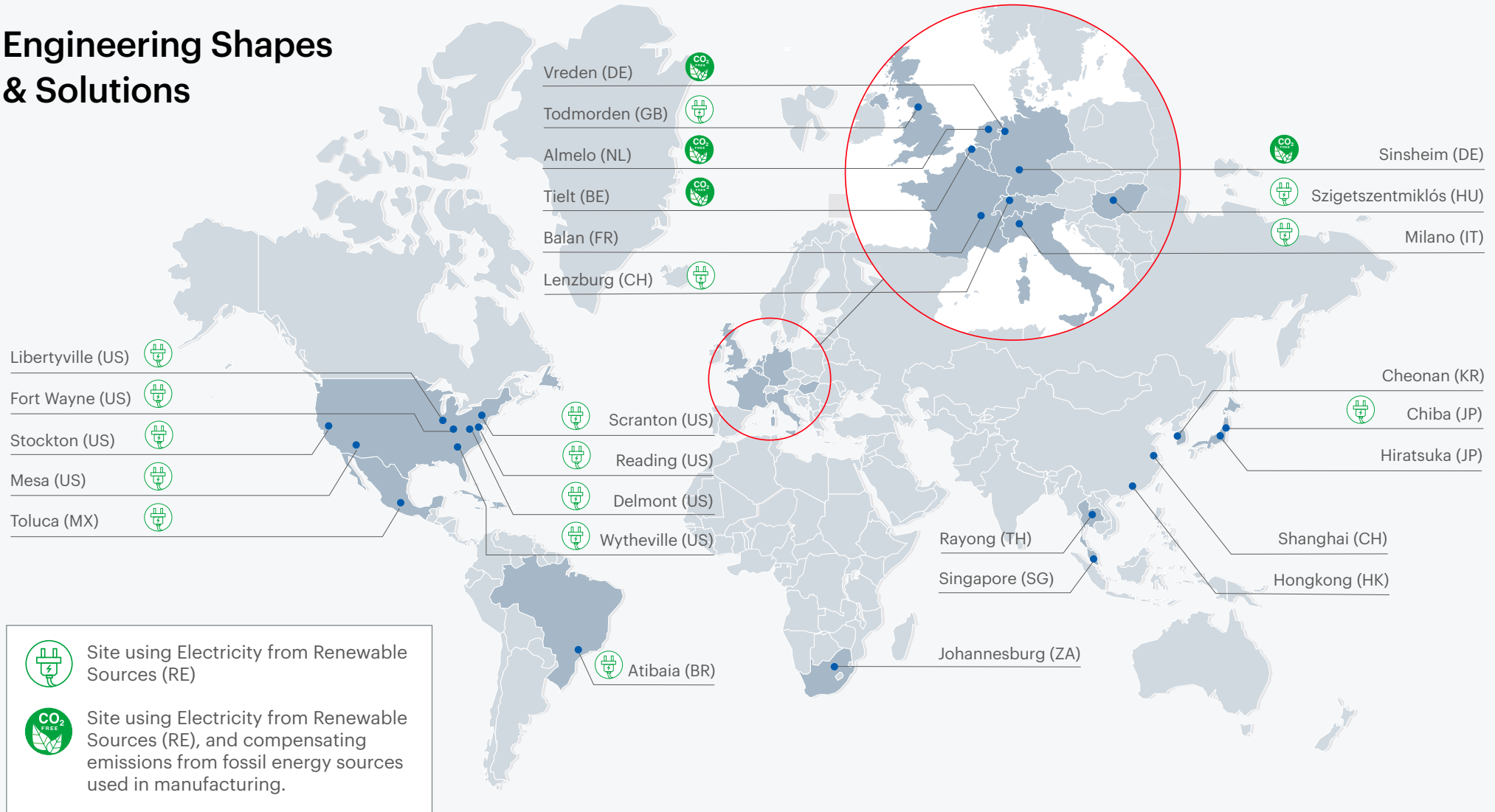
Engineering Shapes & Solutions



Status: February 2025

* Certifications specific to certain parts of the site. ** MCAM Recycling Solutions

Engineering Shapes & Solutions



Status: February 2025

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