

DYNSM343EN0716

## DYNEEMA<sup>®</sup>. THE GREENEST STRENGTH<sup>™</sup>.

*Applications made with Dyneema<sup>®</sup> deliver the lowest carbon footprint for the performance specified from cradle-to-grave. With Dyneema<sup>®</sup> you are choosing the material with the greenest strength.*

The Netherlands, 11 July 2016 - DSM Dyneema, the manufacturer of ultrahigh-molecular-weight polyethylene (UHMWPE) fiber branded as Dyneema<sup>®</sup>, produces the world's strongest, highest-performing fiber. And it does so with the lowest possible carbon footprint. But the company isn't stopping there.

DSM Dyneema has set corporate sustainability goals to further reduce carbon dioxide emissions by 40%, energy consumption by 20% and water use by 15%, all by 2020. It constantly strives to reduce its emissions, as well as the amount of energy and water it uses during production. Through continuous R&D, they aim to further enhance the performance and durability of Dyneema<sup>®</sup>, resulting in solutions that require less material without compromising on performance and with a minimal environmental impact. The company also works closely with clients and industry partners, investing in initiatives that contribute to a circular economy.

Real-world examples are plentiful: [Seismic survey vessels](#) using ropes made with Dyneema<sup>®</sup> have shown 15% fuel savings while reducing the amount of material used by half. [Denim](#) wear made with the fiber offers a 30% carbon-footprint reduction across its life cycle. [Heavy-duty chains](#) made with Dyneema<sup>®</sup> use 85% less material compared to steel. Airplanes equipped with lightweight [aircargo nets](#) made with Dyneema<sup>®</sup> have been shown to consume 10% less fuel and yield a 40% lower carbon footprint. Driven by increasing societal needs, the company is also working with its partners on a circular-economy initiative for mooring ropes.

Three factors combine to make Dyneema<sup>®</sup> "the greenest strength": the continuous improvement in manufacturing, ongoing R&D to further improve the unique properties of the fiber, and finally industry partnerships to explore a contribution to a circular economy. Dyneema<sup>®</sup> means there is no need to compromise between high performance and sustainability. Now or in the future..

## About DSM Dyneema

DSM Dyneema is the inventor and manufacturer of Ultra High Molecular Weight PolyEthylene (UHMWPE) fiber branded as Dyneema<sup>®</sup>, the world's strongest fiber™. Dyneema<sup>®</sup> offers maximum strength combined with minimum weight. It is up to 15 times stronger than quality steel and up to 40% stronger than aramid fibers, both on weight for weight basis. Dyneema<sup>®</sup> fiber floats on water and is extremely durable and resistant to moisture, UV light and chemicals. The applications are therefore more or less unlimited. Dyneema<sup>®</sup> is an important component in ropes, cables and nets in the fishing, shipping and offshore industries. Dyneema<sup>®</sup> is also used in safety gloves for the metalworking industry and in fine yarns for applications in the medical sector. In addition, Dyneema<sup>®</sup> is also used in bullet resistant armor and clothing for police and military personnel. Furthermore the new generation Dyneema<sup>®</sup> Fabrics offer next level innovations in denim, apparel, footwear, sports equipment and lightweight outdoor products and accessories.

UHMWPE products from DSM Dyneema are produced in Heerlen (The Netherlands), Greenville, North Carolina (U.S.A.) and Mesa, Arizona (U.S.A). DSM Dyneema is also a partner in a high modulus polyethylene (HMPE) manufacturing joint venture in Japan. Further information on DSM Dyneema is available at [www.dyneema.com](http://www.dyneema.com).

## DSM - Bright Science. Brighter Living.™

Royal DSM is a global science-based company active in health, nutrition and materials. By connecting its unique competences in Life Sciences and Materials Sciences DSM is driving economic prosperity, environmental progress and social advances to create sustainable value for all stakeholders simultaneously. DSM delivers innovative solutions that nourish, protect and improve performance in global markets such as food and dietary supplements, personal care, feed, medical devices, automotive, paints, electrical and electronics, life protection, alternative energy and bio-based materials. DSM and its associated companies deliver annual net sales of about €10 billion with approximately 25,000 employees. The company is listed on Euronext Amsterdam. More information can be found at [www.dsm.com](http://www.dsm.com).

Dyneema<sup>®</sup> and Dyneema<sup>®</sup>, the world's strongest fiber™ are trademarks of DSM. Use of these trademarks is prohibited unless strictly authorized.

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This press release and relevant photography can be downloaded from [www.PressReleaseFinder.com](http://www.PressReleaseFinder.com).

Alternatively for very high resolution pictures please contact Anouk Luykx

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**Dyneema®**  
**THE GREENEST STRENGTH™**

**3 WAYS WE MAKE DYNEEMA® GREENER**

- MANUFACTURING**  
We use only renewable energy with a minimum impact on the environment, reducing energy emissions and water use.
- INNOVATION**  
We work continuously to develop new products and processes to improve the performance of Dyneema®.
- COLLABORATION**  
Working with partners and customers in industry will help us to create greener products.

**PRODUCTION IS GREENER EVERY YEAR**

We use systems and processes that reduce CO2 emissions, help to reduce, reuse and recycle the waste of every step in production.

**TARGETS FOR 2020**

- 40% REDUCED EMISSIONS
- 20% ENERGY SAVING
- 15% WATER SAVING

**DYNEEMA® IS A VERY LOW CARBON FOOTPRINT MATERIAL**

- PRODUCTS MADE WITH DYNEEMA® ARE LIGHT AND DURABLE
- LOW CARBON FOOTPRINT IN LIFETIME

**CONSTANTLY REDUCING OUR CARBON FOOTPRINT**

1. Make 1 tonne of Dyneema® using 100% renewable energy.
2. Make 2 tonne of Dyneema® using 100% renewable energy.

**DYNEEMA® OUTPERFORMS ALL COMPETING ALTERNATIVES**

WHEN MEASURED BY STRENGTH PERFORMANCE, DYNEEMA® HAS THE LOWEST CARBON FOOTPRINT.

Because it's so strong, Dyneema® allows us to use less material to get the same performance. Dyneema® delivers the same carbon footprint per unit of strength.

Other materials and their carbon footprint per unit of strength:

- Carbon-fiber
- Kevlar
- Fiberglass
- UHMWPE
- Steel
- Alumina

**MAKING A REAL DIFFERENCE IN REAL LIFE**

- AIR CARGO NETS**  
The world's largest cargo nets are made from Dyneema®. They are strong, durable and easy to handle.
- VEHICLE ARMOR**  
Dyneema® is used in vehicle armor for protection against bullets and shrapnel.
- ROCKING SEATBELTS**  
Dyneema® is used in the most advanced seatbelts for trucks and heavy machinery.
- DRAMA PRODUCTIONS**  
Dyneema® is used in the most advanced stage sets for film and television productions.

**DSM**

Dyneema®. The greenest strength™.  
(Infographic DSM Dyneema, DYNSM343)



Dyneema<sup>®</sup> Fiber.  
(Photo DSM Dyneema, DYNSM343)



Dyneema<sup>®</sup>. The Greenest Strength<sup>™</sup>.  
(Photo DSM Dyneema, DYNSM343)