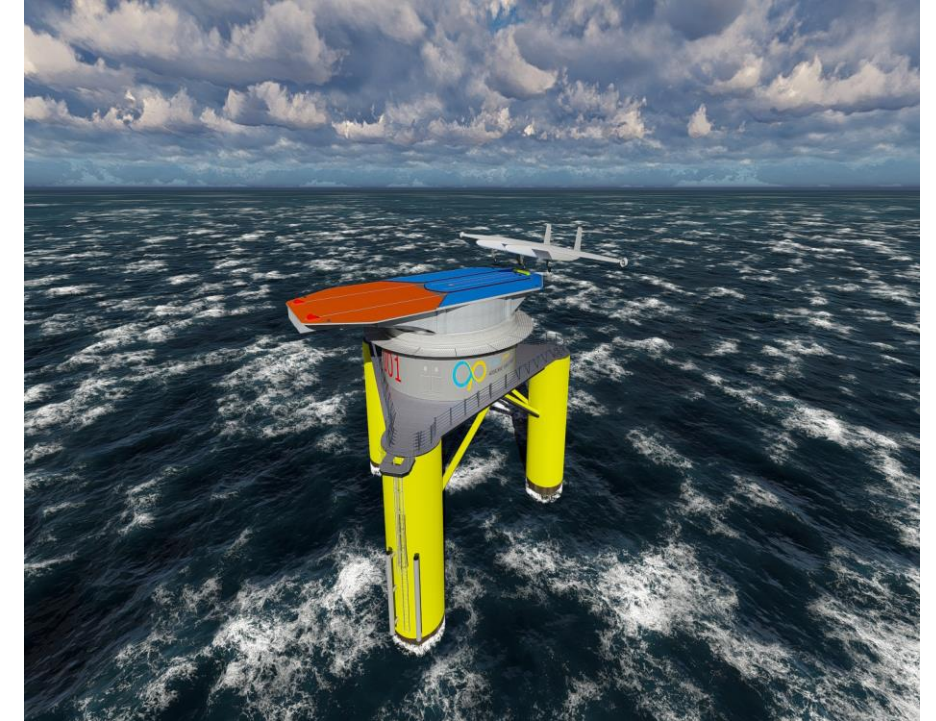




Daedalus, an offshore airborne wind energy project



Development of **engineering tool** for the Dyneema® fiber based tether design for **AP4** by means of building a **full scale testing device**



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Welcome to Dyneema®,
the world's strongest fiber™

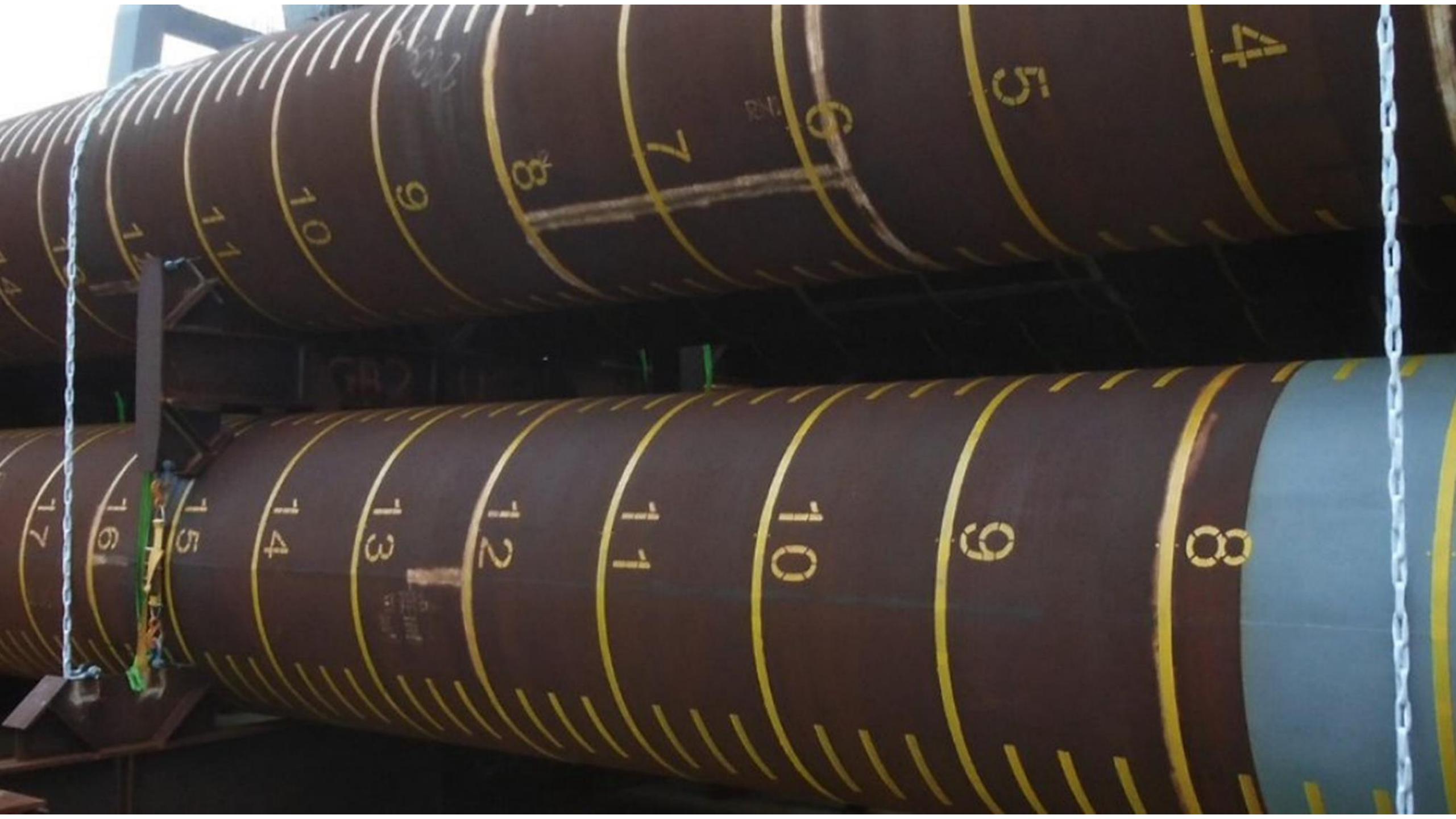
Lightweight solutions



MAM MOET

301107

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Dyneema® - the extraordinary material



What is Dyneema®

Dyneema® is the premium ingredient brand for ultra-high-molecular-weight polyethylene fiber, unidirectional (UD) sheet and fabric invented and manufactured by DSM.

Dyneema® provides:

- Light weight with incredible strength
- Abrasion resistance
- Incredible durability
- Low creep and tension fatigue resistance
- Cut resistance
- High resistance against deformation (high modulus)
- Soft

So it can:

- Stop bullets
- Create the world's safest hands
- *Secure windmill monopiles for transport*
- *Lift and install offshore windmill components*
- *Moor floating windmills*
- ***Transfer energy from kites and aircrafts***





EXTREEMA®
HEAVY-LIFT SLINGS

Wind
Turbines
lifted and
installed by
Dyneema®

PPI Windfloat
Atlantic
moored by
Dyneema®

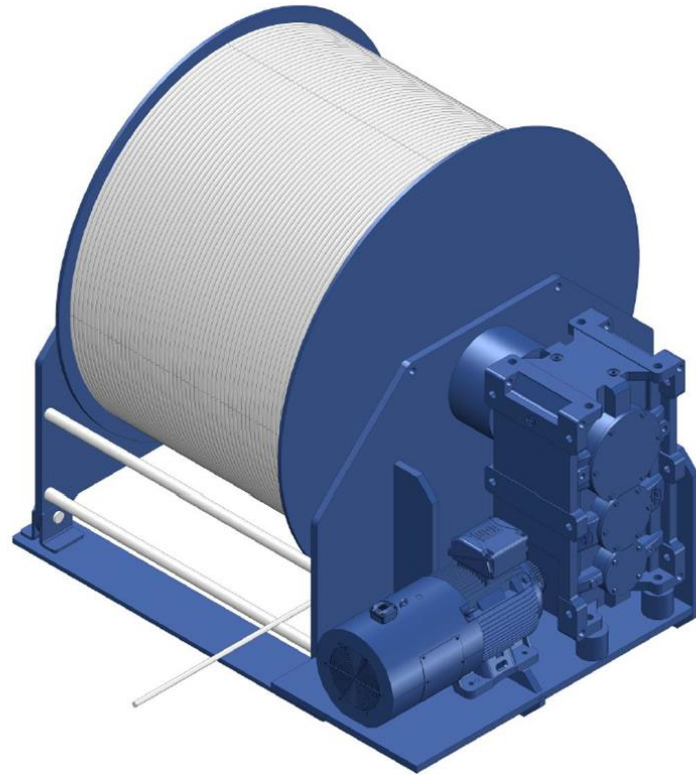




Ampyx Power
AP3
tethered by
Dyneema®

Daedalus project

- Goal: Design guide
 - Interaction tether design and aircraft design AP4
- Requirements AP4
 - High loads and speeds
 - High durability (low LCOE)
 - High AWE system efficiency
 - Rope monitoring (lifetime extension)
- Milestones
 - Test set-up design (15m, ~40 tons)
 - Winch, test bench, sheave
 - Building test set-up
 - Machine validation testing
 - New tether designs
 - Long term tether testing
 - Tether Life Tracker
 - Engineering Data gathering



winch



tether



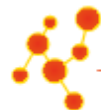
15m test bench





Daedalus

an offshore airborne wind energy project
based on solid engineering principles



TKI WIND OP ZEE
Topsector Energie

