

## Material Data Sheet (MDS) Spectra UHMWPE Rope

---

### 1. Product Identification

- **Product Name:** Spectra UHMWPE Rope
- **Type:** 12-strand braided
- **Manufacturer:** Qingdao Alastin Outdoor Products Co., Ltd
- **Standard:** ISO21304-1

### 2. Material Properties

- **Material:** Ultra-High Molecular Weight Polyethylene (UHMWPE)
- **Equivalent Brands:** Spectra, Dyneema
- **Coating:** Special glue for UHMWPE
- **Color Options:** Red, Yellow, Black, Blue, Green, Orange, Purple, White, Fluorescent green, etc.

### 3. Certification & Compliance

- Conforms to ISO21304-1
- Independent test certificates available

### 4. Rope Specifications

- **Elongation at Break:** ~3%
- **Specific Gravity:** ~0.97 (floats on water)
- **Operating Temperature:** -5000 °C to +120 °C
- **Melting Point:** ~152 °C

- **Modulus of Elasticity:** 75 GPa
- **Abrasion Resistance:** High
- **UV Resistance:** Excellent, UV-stabilized
- **Water Absorption:** 0%
- **Construction:** Hollow braid, spliceable
- **Electrical Conductivity:** Non-conductive

## 5. Recommended Applications

- Ramp support lines (e.g., barge ramp)
- Mooring and towing
- Winch and crane lines
- Emergency recovery lines

## 6. Handling & Installation

- Use with eye-splices and stainless thimbles
- Protect against chafing with sleeves or guards
- Avoid proximity to heat ( $> 90\text{ }^{\circ}\text{C}$ )
- Inspect regularly for wear, abrasion, and UV degradation

## 7. Safety Information

- Always use appropriate safety factors ( $\geq 5:1$ )
- Never exceed rated load
- Store in cool, dry conditions away from UV and chemicals
- Avoid shock loading and sharp bends

**8. Warranty / Shelf Life**

- Typical service life: 5–8 years (depending on conditions)
- Manufacturer warranty terms apply upon request

---

**Specific Information by Diameter**

Information Category	6 mm	8 mm	10 mm	12 mm	14 mm	16 mm	18 mm	20 mm
Part Code	SPECTRA-6MM	SPECTRA-8MM	SPECTRA-10MM	SPECTRA-12MM	SPECTRA-14MM	SPECTRA-16MM	SPECTRA-18MM	SPECTRA-20MM
Minimum Breaking Load (MBL)	2580 kg	4020 kg	6790 kg	9310 kg	12460 kg	16030 kg	20160 kg	24710 kg
Linear Density	20 ktex	38 ktex	48 ktex	73 ktex	100.6 ktex	137 ktex	173 ktex	212 ktex