

# TenCoat™ Marine Deep

## The best of polypropylene with the advantages of rubber

TenCoat™ Marine Deep is a high performance polypropylene blend based on a coating system engineered for flow assurance.



**TenCoat™ Marine Deep:**  
An innovative multilayer solid system with the reliability of polypropylene.

### SYSTEM DESCRIPTION

ANTICORROSION SYSTEM	Well-known 3 layer Polypropylene system or modified 3 layer structure with TenCoat™ Marine Deep top layer.
THERMAL INSULATION LAYER TENCOAT™ MARINE DEEP	A high performance solid polypropylene blend obtained with a cross-linked elastomer based on specific Vegaprene® grade developed by Hutchinson.
TOP COAT	Polypropylene based layer for Mechanical and UV protection.

The system is comprised by layers of single components (no inline mixing of materials as in the case of glass microsphere based layer) leading to reliable and repeatable industrial application process with excellent control, consistency and quality of the material's property.

### UNMATCHED THERMAL PERFORMANCES FOR INSULATION AND HEAT RETENTION IN AN EXTENDED TEMPERATURE RANGE

- Lower thermal conductivity in the market for solid materials
  - \_ Lower coating thickness
  - \_ Potential savings in transportation and installation costs
  - \_ Potentially reduced FJC time cycle
- Higher density
  - \_ Combined with lower coating thicknesses required, guarantees seabed stability
- Specific heat characteristic typical of polypropylene
  - \_ Extended cool-down time
- Full solid material ensures
  - \_ Stability of thermal properties in time
  - \_ Unlimited depth installation

- Elastomer presence into the mix
  - \_ Excellent ductility at low temperature
  - \_ Safer installation in cold climate conditions
- Low brittleness temperature and high flexibility
  - \_ Installation by all subsea laying methods including Reeling, S-Lay and J-Lay

### FIELD JOINT

TenCoat™ Marine Deep is compatible with all systems developed for polypropylene based thermal insulation systems.

### TENCOAT™ MARINE DEEP PERFORMANCE

PROPERTY	RESULT ACHIEVED WITH TENCOAT™ MARINE DEEP
Minimum pipe diameter	100mm (4")
Maximum pipe diameter	900mm (35")
Maximum operative temperature	140 °C (285°F) as defined by ISO 12736
Thermal conductivity	0,145 W/m²k (0,083 BTU/h-ft²°F)
Specific heat capacity	1.7 - 2.8 [W/m²k] (0.40 - 0.67 [BTU/lb.°F]) 20°C - 140°C
Overall heat transfer coeff. (U value)	>1,9 W/m²k (0,335 BTU/h-ft²°F)
Water depth	Unlimited



For additional information, please visit  
[www.tenaris.com](http://www.tenaris.com)



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