

Monitoring

# Coating Thickness Measurement

CHRIS-MARINE®  
**CTM**

CTM measures coating thickness with high precision on magnetic and non-magnetic base materials.

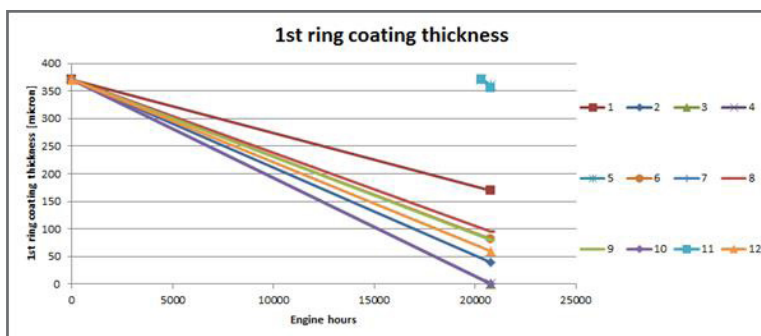


## Product features

- Easy-to-use condition-based maintenance and wear monitoring of piston rings in 2-stroke engines
- Measures non-magnetic coatings on magnetic or non-magnetic base materials
- Automatically detects whether the base material is magnetic or non-magnetic
- Compatible with the Chris-Marine LDM
- Trend-plotting software included
- Reliable and non-destructive measurements even in hard-to-reach areas

**Ideal for daily use**

- Easy-to-perform calibration (calibration films included).
- Statistics functions for display of mean value, standard deviation, MIN, MAX.
- Quick, one-hand operation: Place instrument on specimen and see the measured value.
- Two backlit LCD displays for readings in all instrument positions, even overhead.
- Automatic On/Off function.
- Durable, rugged housing and hard-material coated probe.

**Easy prediction of time to next piston overhaul**

The graph shows how the estimated time to next piston overhaul can be predicted using the CTM on the top piston ring of a modern 2-stroke engine. The piston ring wear rate varies from unit to unit, as a result from production tolerances and operating conditions giving opportunity for safer and less costly overhauling by practising condition-based monitoring with the CTM.

**Important monitoring**

Picture of chrome-ceramic coated 1st piston ring breaking through the coating and into the base material.

The piston ring coating serves as protection against cylinder scuffing. Without coating, the risk of cylinder scuffing or high cylinder wear rate increases.

Cylinder scuffing means high repair costs and costly operational disturbance (often paid on the fuel bill).

Regular CTM monitoring of coated piston rings is a pre-requisite for safe cylinder condition.

**Technical specifications**

• Measuring Principle	Magnetic induction and eddy current
• Thickness range	0 - 2000 µm
• Accuracy	<p><b>Magnetic</b></p> <p>up to 75 µm ± 1.5 µm 75 to 1000 µm: &lt; 2% 1000 TO 2000 µm: &lt; 3%</p> <p><b>Eddy current</b></p> <p>up to 50 µm: ± 1 µm 50 to 1000 µm: &lt; 2% 1000 to 2000 µm: &lt; 3%</p>
• Operating temperature	5-60°C
• Data memory	1000 measurements
• Weight	132 g
• Battery	2 x 1.5V
• Dimensions/Weight	140 x 50 x 70 mm/400 g

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