



HEXAGON

NEXT**SENSE**

CALIPRI C4X

Data Sheet

Measurement module “Tyre Thickness”



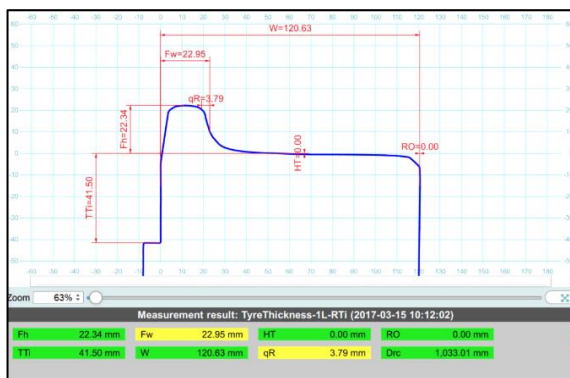
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CALIPRI
C4X

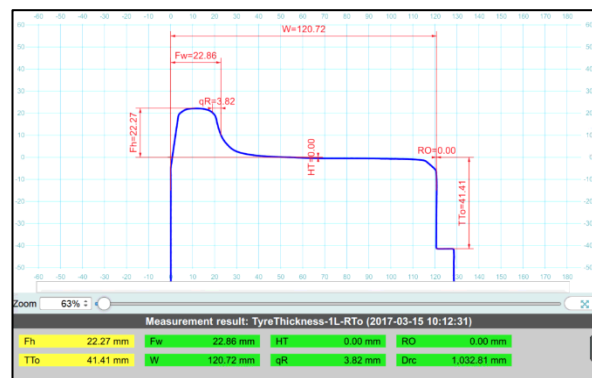
1 APPLICATION

The “Tyre Thickness” module is the expansion of the wheel profile measurement module. In addition to the wheel profile measurement, this module also allows for the measurement of the tyre thickness of all common tyre types in a matter of seconds. A magnetic supporting gauge (RD gauge) is used to perform the measurement. Depending on the condition of the wheel, the gauge can be placed either on the inner or the outer abutting face or the wear limit groove. Different RD gauges are available and the two types are included in this module offering. If the inner diameter of the tyre is known, the rolling circle diameter can be calculated on the basis of the tyre thickness values. All of the measured variables are displayed on the sensor and tablet PC within a few seconds. These results can then be compared automatically with your organization’s reference values.

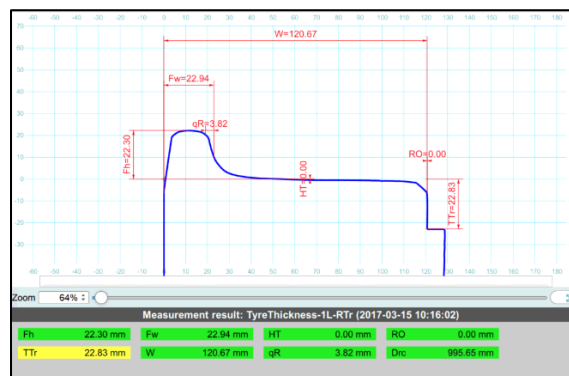
Measured variables:



Measurement method “WheelFlange_RTi”
Gauge positioned on the inner side



Measurement method “WheelFlange_RTo”
Gauge positioned on the outer side



Measurement method “WheelFlange_RTTr”
Gauge positioned on the wear groove



2 TECHNICAL DATA

Compatibility	CALIPRI C41, CALIPRI C42
System requirement	Measurement module „Wheel profile”
Requirement for the calculation of the diameter	Inner diameter of the tyre (manual input of the value)
Tyre thickness accuracy	Absolute accuracy: < $\pm 80 \mu\text{m}$ Repeatability: < $\pm 35 \mu\text{m}$
Accuracy of the diameter calculation	Depends on the manufacturing tolerances of the reference diameter
Scope of application	For all common tyre thickness types (heavy rail and light rail)
Dimensions	Tyre thickness outer → TTo Tyre thickness inner → TTi Tyre thickness groove → TTg Flange height → Fh Flange width → Fw Flange slope → QR Wheel width → W Rollover → RO Hollow tread → HT Rolling circle diameter → Drc
Standards & certificates	CALIPRI is approved and uses i.a. in Germany (DB), Austria (ÖBB), Switzerland (SBB), France (SNCF), China (Chengdu Railway Bureau) and the Czech Republic (SŽDC). This measuring module has been successfully tested according to JCGM100: 2008, DIN V ENV 13005: 1999-06, DIN EN 13715: 2001-01, DIN EN 15313: 2016-09 and DIN 27201-9: 2017-06.
Product ID	CMM1003



3 SCOPE OF SUPPLY AND SERVICES

- Software license measurement module "Tyre Thickness"
 - 3 measurement methods (WheelFlange_RT*i*, WheelFlange_RT*o*, WheelFlange_RT*r*)
 - In case of supplementary order: activation via remote access

- Tyre thickness gauge "RD2 820"

- To be positioned on the edge between abutting face and inner radius of wheel tyre
- Default length of the gauge shanks: 15 mm (0.6"), optional upon request: 30 mm (1.2")



- Tyre thickness gauge "RD3 820"

- To be positioned on the wear limit groove of the wheel tyre



Add-Ons

To measure tyre thickness of worn wheels, combinations of gauges RD2 820 and BR 600 can be applied. These special gauges should be placed on the inner side of the tyre.

- Special gauge „RDBR 500“

- Standard combination
- W/H/D: approx. 145/35/3 mm (5.7"/1.4"/0.1")
- Product ID: CAO2008



- Special gauge „RDBR 500LE“

- For confined spatial conditions
- W/H/D: approx. 145/35/3 mm (5.7"/1.4"/0.1")
- Product ID: CAO2020



- Special gauge „RDBR 760“

- For severely worn-out wheels
- W/H/D: approx. 300/55/3 mm (11.8"/2.2"/0.1")
- Product ID: CAO2024





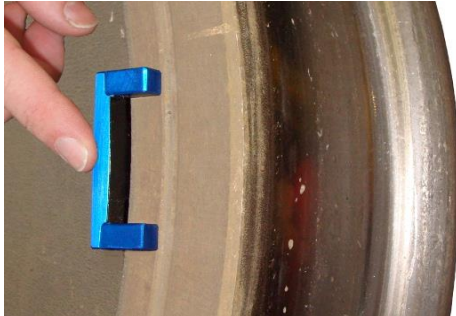
- Special gauge “RD2-820-15-ANT”
 - For outer measurements
 - Shanks length: 15 mm (0.6”)
 - Product ID: CAO2018



- Special gauge „RD2-820-30-ANT“
 - For outer measurements
 - Shanks length: 30 mm
 - Product ID: CAO2019



4 MEASUREMENT PROCESS



“RD2 820” gauge fixture

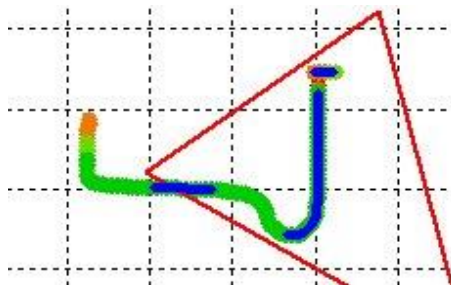
OR



“RD3 820” gauge fixture



Measurement process

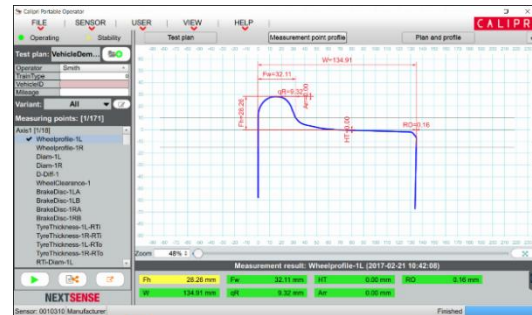


Sensor guidance (Tutor)



Measurement result (Sensor)

AND



Measurement results (Tablet PC)

Offer & Live demonstrations:
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