



## Runflat distance and handling trials

IDIADA PROVING GROUND  
TARRAGONA, SPAIN  
27<sup>th</sup> & 28<sup>th</sup> February 2018

Tests carried out on Runflat CBR 17-7.5-65 runflat inserts

### Test type and purpose

To establish the handling characteristics of a 4x4 vehicle running on standard single piece drop-centre wheels with all 4 tyres deflated.

To establish extended distance capability at speeds specified in Finabel A.20A

Test Vehicle - Toyota Land Cruiser LC3 D-4D Manual

Test wheel loadings;

- Front axle left wheel 652 kg
- Front right wheel 669 kg
- Rear axle left wheel 668 kg
- Rear axle right wheel 665 kg
- Total vehicle weight 2,654 kg

Tyres – Michelin Latitude Cross 265/65 R17 112H radial

Runflat inserts Runflat CBR 17-7.5-65

Test equipment:

- Manometer
- Weight scale
- Speed measurement device
- Temperature module
- Ambient temperature measurement device

Vehicle preparation

The vehicle was equipped with;

- temperature sensors on all rims
- satellite distance measuring and recording equipment
- accurate speed measuring and recording equipment
- ambient temperature measuring equipment

#### Test tracks

- IDIADA General Road
- IDIADA Fatigue Track

#### Handling test

Before the test each tyre was marked to show its position on the wheel in order to measure any movement of the tyre on the wheel rim.

The vehicle was driven on both the General Road and the Fatigue tracks with all 4 tyres deflated.

Only a short unmeasured distance was undertaken while the handling characteristics were assessed. At all times the vehicle remained in control, including steering response, cornering, traction and braking.

#### Distance trial

The offside rear tyre was deflated and the vehicle driven on the General Road track.

Track test distance recorded was 243.53 km. plus distance covered deflated from garage area to track and return of 7.66 km, totalling 251.19 km. The test was stopped due to limitation on track time and as a result of reaching the goal of 250 km.

Average speed for the total distance was 31.56kph with a maximum speed of 44.62kph.

Average rim temperature for the inflated tyres was 7.1°C with a maximum of 9.3°C

Average rim temperature of deflated tyre was 17.9°C with a maximum of 24.7°C

#### Observations

The behaviour and handling of the vehicle was predictable during the whole course. The vehicle kept its handling properties (steering, braking, cornering, traction) throughout the test.

The tyre appeared unmarked after both tests and was re-inflated. Interior inspection of the tyre showed no wear under the tread area where the tyre ran on the runflat.

No circumferential movement was detected between the wheel rim and the tyre.



Monitoring equipment  
For Runflat CBR test  
IDIADA proving ground  
February 2018



Tyre after 251.14km runflat  
Note excellent condition of tyre  
and no movement on rim  
(marked on tyre and rim)



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Runflat CBR  
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