



TYRE RESEARCH IN EUROPE

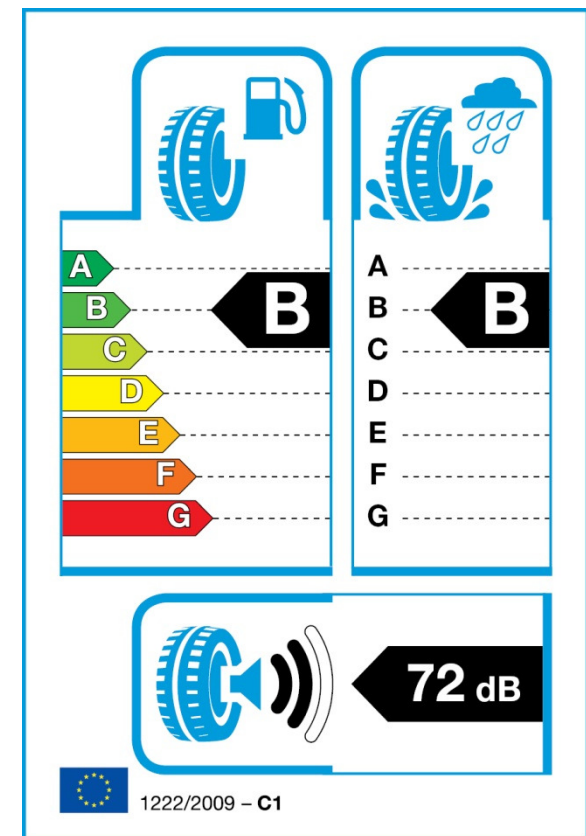
ARTSA AGM – 23RD FEBRUARY
ARRB GROUP, MELBOURNE

Sources: Various

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New tyre labelling scheme

- **From November 2012 onwards, category C1, C2 and C3 tyres in the EU will need to be accompanied with an information label at the point of sale.**
- **Noise (Exterior Noise Emissions)** – Sound emissions level measured and compared against the European limit for that particular tyre.
- **Rolling Resistance (Fuel Efficiency)** – Change in fuel consumption of between 2.5%-4.5%.
- **Wet Grip (Safety Performance)** – Change in stopping distance of between one to two car lengths (3-6 metres) when braking at speeds of 50mph.



Source: EU (2010)

Recent research

- **Many recent EU-funded projects:**
- ‘Silence’ and ‘Q-city’ projects – controlling noise emissions from urban surface transport, investigated the influence of vehicles and road surfaces.

- <http://www.silence-ip.org/site/>

- <http://www.qcity.org/>

- ‘Tyrosafe’ project – took this concept one step further and investigated the possible optimisation of road and pavement parameters to deliver safety and environmental benefits.

- <http://tyrosafe.fehrl.org/?m=1>



Current research – project MIRIAM

- **Models for rolling resistance In Road Infrastructure Asset Management Systems**

- Twelve partners from Europe and USA – collaboratively funded.
- The aim of the current project is optimizing road infrastructure through the development of methods and models to lower the CO₂ emissions and air pollution associated with its use, by reducing vehicles' rolling resistance and fuel consumption.



Source: MIRIAM (2012)

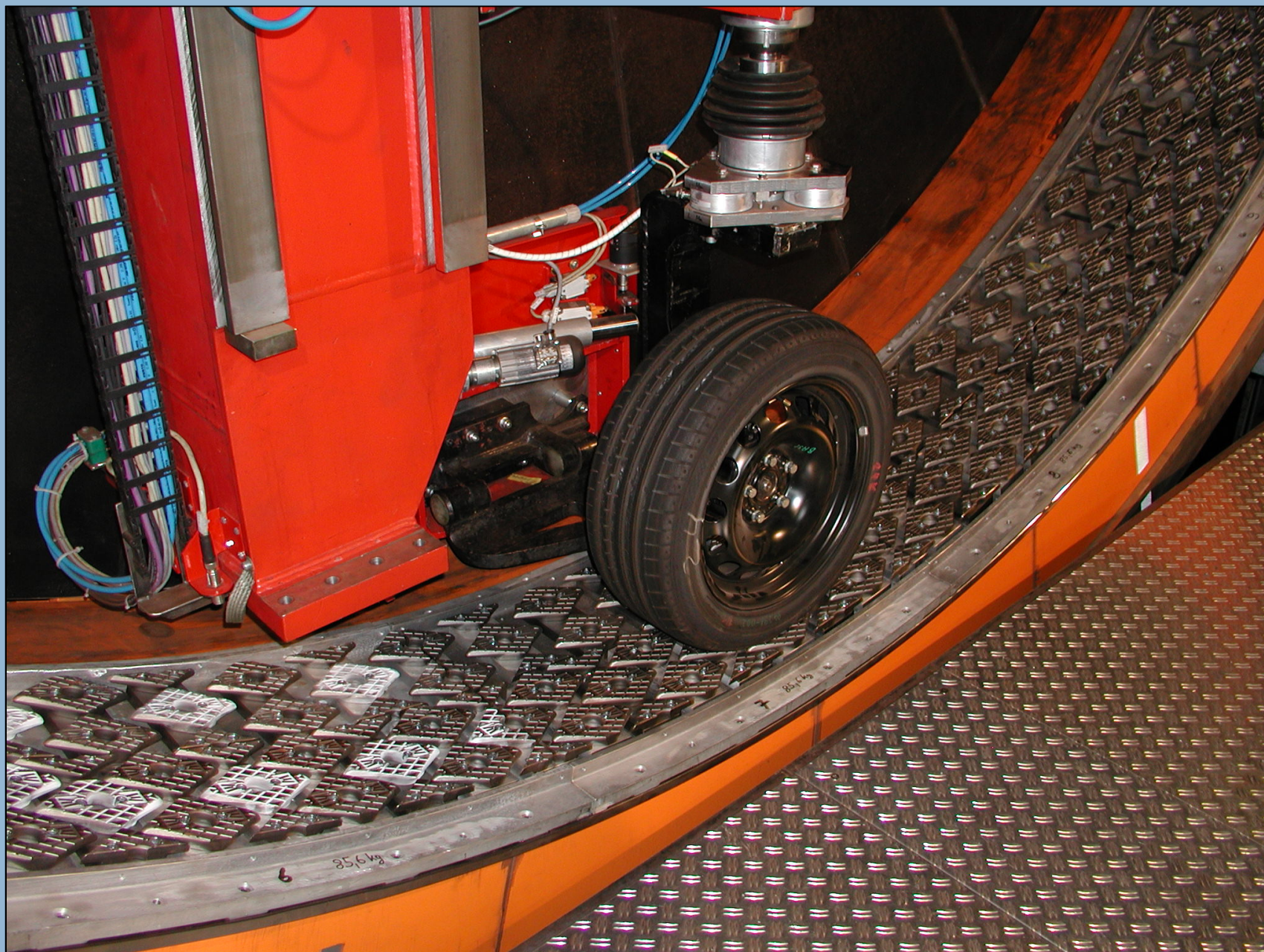
Current research – project MIRIAM



- **Research indicates that when road evenness changes 1 meter per kilometre, the rolling resistance will increase by 2.3 % at 54 km/h and 6.2% at 90 km/h.**
- It is expected that parameters such as road surface texture (macro and mega-texture), surface layer stiffness, surface temperature and longitudinal evenness may all influence rolling resistance.
- **Aiming to address the following knowledge gaps:**
 - the repeatability of rolling resistance measurements over short and medium term time frames
 - the length of the test section for field tests, and the required number of test runs
 - the optimum reference tyre to be used for field and/or laboratory measurements
 - the effects of drum curvature for laboratory tests
 - the effects of surface temperature, grade, tyre inflation, and travel speed.



Source: BASt (2010)



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Source: BASt (2010)



Source: BASt (2010)



Source: Sandberg (2012)

Website: <http://miriam-co2.net/>

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