Snow braking and ice braking tests

Test World Ltd, Finland
Objectives

- Test the performance of 8 winter tyres, consisting of tyres designed for both Nordic and milder winters, and to compare them with the SRTT 14’ and the ASTM 16’ tyres.
- Find the performance levels of different tyre types
- Find the performance limits of premium and low quality tyres
- Check the performance on ice, snow and wet asphalt (wet asphalt not tested yet)
- Test the effect of test conditions, having tests made in a range of different temperatures
- Have information about the reproducibility, by repeating the tests also in same temperatures
Snow braking at different temperatures, °C

- Uniroyal SRTT 14
- Uniroyal ASTM 16
- Uniroyal ASTM 16
- Linglong Winter-Hero Radial 1652
- Michelin Primacy Alpin
- Dunlop SP Winter Sport 3D
- Falken Eurowinter HS439
- Michelin X-Ice X12
- Continental ContiVikingContact 5
- Nokian Hakkapeliitta R
- Goodyear Ice Navi Zea

Index: SRTT/TestTyreX

-2.0 / -2.6
-2.9 / 3.1
-8.5 / -7.8
-8.2 / -8.9
-14.3 / -14.2
-14.6 / -14.9
107 %
110 %
Ice braking at different temperatures, °C
Average results – snow braking

Average snow: 107 %, 110 %
Results

- The main challenge is that in some tests and conditions, some tyres behave very differently, but only some.

- The temperatures have an effect for the above, but not always. The conditions have different effect to different tyres. Some tyres perform better in low temperatures, some in high temperatures.

- The main conclusion is that it is vital to do the tests more than once. Probably at least 3 times, each in different day and temperature. The average would give a good view of the tyre performance.

- When tested only once, it is possible to get almost any result for a certain tyre.

- To prevent poor performing snow tyres in the market, the minimum snow performance index should be 1.10 for C1 tyres.