

Studded Tires in Ontario

Proposed Changes to O. Reg. 625



Ministry of Transportation
Provincial Highways Management
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Purpose

- To provide a background on studded tire legislation in Ontario
- To present proposed updates to the current regulation to allow new types of studded tires in Northern Ontario

Overview of Studded Tires in Ontario

- Following a studded tire ban in place since the 1970s, Ontario introduced studded tires legislation in 2005 that:
 - Permitted the use of studded tires fitted with Scandinavian standard lightweight studs
 - Limited the use of studded tires on vehicles over 3½ tonnes to municipal emergency and winter maintenance vehicles
 - Limited their use to vehicles with an ownership address in Northern Ontario
- Studded tire use is permitted from September 1st to May 31st for vehicles with an ownership address in Northern Ontario, as defined by the Algoma, Cochrane, Kenora, Manitoulin, Nipissing, Parry Sound, Rainy River, Sudbury, Thunder Bay, and Timiskaming Territorial Districts.
- The use of studded tires is restricted in Ontario due to the extensive damage they can cause to paved roads

Current Regulatory Framework

- The requirements for studded tire use are outlined in Ontario Regulation 625 – Tire Standards and Specifications
- The number of studs as well as their length and weight are regulated in order to avoid causing excess road wear and subsequent cost in road maintenance

Item	Gross vehicle weight rating	Maximum protrusion of stud when newly installed	Maximum protrusion of stud when in use	Maximum stud weight and maximum static force	Maximum number of studs per tire	Material of studs
1.	2500 kilograms or less	1.2 millimetres	2.0 millimetres	1.12 grams and 120 newtons	90 for TSMI sizes #13 or lower 110 for TSMI size #15 130 for TSMI size #16 and higher	Any, except steel
2.	more than 2500 kilograms but not exceeding 3500 kilograms	1.2 millimetres	2.0 millimetres	2.3 grams and 180 newtons	90 for TSMI sizes #13 or lower 110 for TSMI size #15 130 for TSMI size #16 and higher	Any, except steel
3.	3500 kilograms or more	1.5 millimetres	2.5 millimetres	3 grams and 340 newtons	150	Any
4.	3500 kilograms or more	1.5 millimetres	2.5 millimetres	1.12 grams and 120 newtons	250	Any

Rationale for Regulatory Updates

- The current regulation defines the maximum number of studs per tire, based on tire/stud size, e.g. 90 studs for size #13 rim
- A new generation of studded tires have smaller, lighter studs and more studs per tire
- In many cases, the number of studs per tire exceeds that prescribed by O.Reg. 625
- The ministry is proposing updates to the regulation to address newer studded tire designs and manufacturing practices

Scandinavian Standard for Studded Tires

- Scandinavian standards for studded tires were reviewed
- In addition to a maximum number of studs per tire, Finland and Sweden include a performance requirement in their studded tire legislation (Finnish Decree 408)
- The Over-Run Test was developed by the Finnish TRAFICOM agency
 - It measures pavement wear due to studded tire impact on pavement
 - Studded tire designs compliant with the Over-Run pavement wear test are permitted on Finnish and other Scandinavian roads
 - The performance requirement has been in place since 2013

Performance Model Standard

- The pavement wear performance model provides an option to studded tire manufacturers
- The pavement wear performance model allows all tire manufacturers to be treated fairly using a transparent approach
- A performance model standard approach will limit potential excessive damage from studded tires

Other Considerations

- MTO's Winter Maintenance Policy is that bare pavement be restored within 8 to 24 hours after a snowstorm, depending on highway classification
 - Research shows that studded tires are more effective than other winter tires only under icy conditions, particularly on wet ice
- No other jurisdiction in North America has adopted pavement wear performance requirements for studded tires
 - The Appendix lists a number of tire manufacturers who have carried out Performance Testing to meet the Finnish Legislation

Approach

- Change the regulation by introducing pavement wear performance acceptance requirements for tire manufacturers and updating the Tire Stud Specification Table
 - This would allow tire manufacturers to demonstrate that the new generation of studded tires is equivalent or less damaging to the paved road surfaces than what is currently allowed under the legislation
 - Pavement wear test would follow recognized northern European standards
 - The Table would be updated by defining the maximum number of studs based on tire size.

Questions

- Any questions or comments on the proposed regulation changes and pavement wear performance standards can be directed to:
Becca Lane, Manager, Materials Engineering and Research Office
(416) 235-3512 or Becca.Lane@Ontario.ca

Thank You

Appendix

Tire Manufacturers that have carried out Performance Testing to meet the Finnish Legislation

- Aeolus
- Apollo
- BF Goodrich
- Bridgestone
- Cheng Shin Rubber Co
- Continental
- Dunlop
- Falken
- Federal
- Giti
- Goodyear
- Hangzhou Zhongce
- Hankook
- Iceland
- Kormoran
- Kumho
- Michelin
- Nankang
- Nexen
- Nokian
- Omni
- Pirelli
- Sailun
- Sentury
- Toyo
- Triangle
- Yokohama