

February 6, 2009

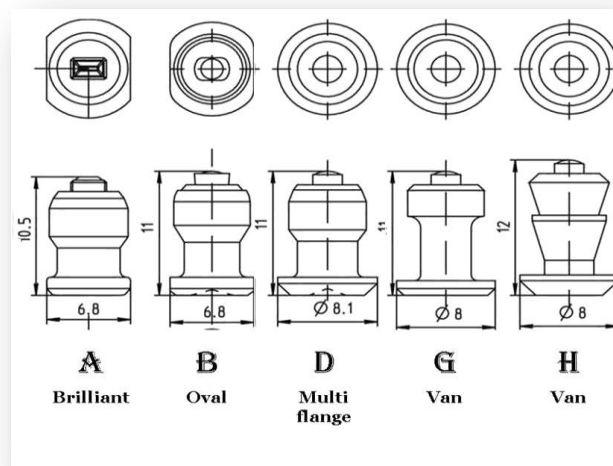
Product Service Information Bulletin PSD0902E

Studs Specification

Studs lengths and models for our Winter Tire line

- Continental WinterViking 2 – 10.5 mm - Stud A
- Continental 4X4 IceContact – 11 mm - Stud B
- Continental VancoViking – 12 mm - Stud H
(Excepted for 195/70R15 XL, stud D – 11 mm)
(Excepted for 165/70R14C – 165/65R14C – 175/65R14C – 215/65R16C – 195/60R16C, stud G – 11 mm)
- Continental Vanco C – 12 mm - Stud H
- Gislaved NordFrost C – 12 mm - Stud H
(Exception for 195/70R15 XL, stud D – 11 mm)
(Exception for 165/65R14 – 195/60R16 – 205/60R16, stud G – 11 mm)
- Gislaved NordFrost 3 – 11 mm - Stud B
- Gislaved NordFrost 5 – 10.5 mm - Stud A
- Semperit IceGrip 2 – 11 mm - Stud D
- General Grabber AT² – 12 mm - Stud H
- General Altimax Artic – 11 mm - Stud D
- Barum Norpolaris – 11 mm - Stud D

Studs Specifications



The studs specifications above are those installed at our Continental Tire plant. The new light studs (A **Brilliant** and B **Oval**) have an oval base design, which



permit to be more stable in the tire and reduce studs lost. They also have a rectangular head (core) which leads to an improved ice braking compare to a standard stud. For example, the performance of the Brilliant stud is 11% - 15% above the performance of a standard round stud. Those studs are available on the European market.

Example of studs on the Canadian market

Passenger / Light Truck Tire Studs

Packaged:
1,000 pcs per box
10,000 pcs per case

9mm Base

EURO	TSMI#	LENGTH	COLOR	WEIGHT-ESU	WEIGHT-EGU
9 x 16	TSMI 17	16mm	Gold	2.5g	2.7g
9 x 15	TSMI 16	15mm	Silver	2.4g	2.6g
9 x 13	TSMI 15	13mm	Blue	2.2g	2.3g
9 x 12	TSMI 13	12mm	Gold	2.0g	2.2g
9 x 11	TSMI 12	11mm	Silver	1.9g	2.0g
9 x 10	TSMI 11	10mm	Blue	1.7g	1.8g

Recommended Equipment

- SATSIM 9mm Semi Automatic Tire Stud Insertion Machine
- TSIT-9 Tire Stud Insertion Tool
- BWPR-9 Push Rod Style Tire Insertion Tool
- BWFP-9A Automatic Feeder w/motor
- 4048 Mini-manual Feeder
- K-5A Tire Studding Stand
- 0700 Drill Bit 3.5mm
- 0705 Drill Stop 3.5mm

Note: 1) ESU = Sintered Steel Construction
2) EGU = Cold Headed Construction

Ref. <http://www.brunowessel.com/>

- Continental does not recommend using TSMI studs, due to weight legislation 1.1g in certain province / country.
- Continental does recommend using light weight studs due to environmental (airborne dust) and road wear reason.
- Continental does recommend using multi flange designs compared to single flange designs (TSMI) because of ice performance reasons; especially for light weight studs the ice performance is improved.
- The TSMI stud design can be used in our tires, if the right stud length will be used.

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Recommendations for studs utilization

- 1- **Utilization of non approved studs:**
Continental will not accept claims (stud loosing, tire damage or other loss) resulting from usage of non approved studs.
- 2- **Break in Period**
Continental recommends to “break in” new studded tires to set the stud seating. Avoid fast accelerations, hard braking and restrict speeds to a maximum of 100km/h during the first 500km.
- 3- **Rotation**
Continental recommends rotating studded tires every 7,500 – 10,000 km, or after each winter season, (which ever is first), being careful to keep the same rolling direction in order to provide optimal winter tire performance and longest lifetime.
- 4- **Usage without studs**
Continental recommend to use studdable tires only fitted with approved studs. Irregular wear complaints resulting from usage without studs will never be accepted
- 5- **External studding**
Continental recommends not to stud or re-stud used tires, due to risk of serious tires damages resulting from incorrect stud lengths or unrecognized trapped stones or dirt in the stud hole.
- 6- **Misuse**
The performance of studded tires (stud wear, protrusion, stud loosing, etc) is dependent on the service conditions and air pressure. Continental will not accept stud loosing complaints due to hard driving, low air pressure, etc (misuse – summer usage)
- 7- **Rolling Direction**
Continental recommends to never changing the rolling direction of a used studded tire
- 8- **Special Service (gravel roads)**
Continental does not recommend to use studded tires mainly on gravel roads. Informed the customer that he/she has to accept a high number of lost studs and lost pins on his/her own risk due to the extreme forces on the studs and the high abrasive rate of the gravel stones.

Restrictions by province

Province	Restrictions	Comments
Newfoundland & Labrador	November 1 – April 30	
New Brunswick	October 15 – April 30	
Nova-Scotia	October 15 – April 30	
Prince Edward Island	October 1 – May 31	
Quebec	October 15 – May 1	Commercial vehicle with less than 3,000 kg only. Passenger's vehicles, only on both axles.
Ontario	October 1– April 30 (north of Ontario only)	Only north of Parry Sound and Nipissing district. Light stud only, 1,12 gram maximum (Scandinavian norm). The visitors are accepted for a maximum of 30 days.
Manitoba	October 1 – April 30	Metal stud with tungsten carbide core or ceramic stud only.
Saskatchewan	No restriction	
Alberta	No restriction	
British Columbia	October 1 – April 30	
Yukon	No restriction	
Northwest Territory & Nunavut	No restriction	