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> 24th - 25th June 2015 Bitec Bangna, Bangkok

A Development of the Tread Pattern for Retread Truck Tire Industry in Thailand

AUTOMOTIVE SUMMIT 2015

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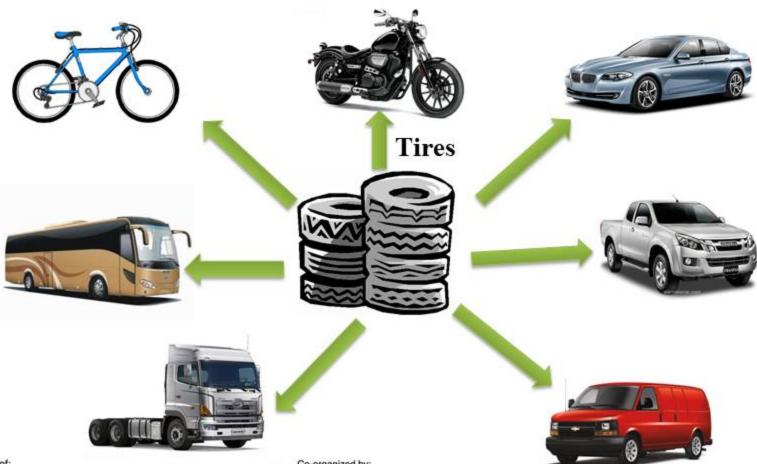
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New Tire



Retread Tire



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Topics

Overview of the Retread Truck Tire Industry in Thailand

Research and Development of the Retread Truck Tire in Thailand

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Topics



I - Retread Truck Tire

II - Retreading Process

III - Status of the Retread Truck Tire Industry in Thailand

IV - Retread Tire Regulation

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Topics



A Development on Design and Making for the Precision and Complex Mould of Retread Tires used with Trucks

A Study on Development of the Truck Retreaded Tire for Transportation Efficiency Improvement

An Analysis of the Retread Tire Footprint

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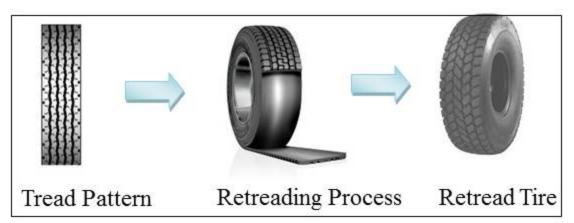
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Overview of the Retread Truck Tire Industry in Thailand

Retread Truck Tire - Definition

Retread tire is an old or a used tire whose surface has been given a new remoulded tread layer of rubber. Retreading is a process to bond and to vulcanize a new tread to the prepared surface of a worn tire.



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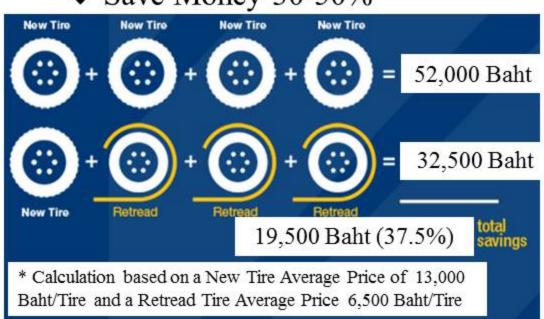
Source: http://www.merriam-webster.com

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Retread Truck Tire - Benefits

❖ Save Money 30-50%



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Overview of the Retread Truck Tire Industry in Thailand

Retread Truck Tire - Benefits

Less Production Energy



Scrap Tire Reduction



Recycling



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Topics



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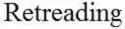
Retreading Process













Retread Tire

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Overview of the Retread Truck Tire Industry in Thailand

Retread Truck Tire Industry in Thailand – Transportation Statistics

Domestic Transported Product Quantity by Weight Unit: Thousand Metric Tons

Tran. Mode	Year				
	2009	2010	2011	2012	2013
Road	423,677	420,449	406,538	425,804	426,086
Rail	11,517	11,288	10,667	11,849	11,817
Waterway	41,561	48,185	46,932	47,423	47,422
Sea	35,692	36,731	41,273	34,968	44,261
Air	104	121	131	130	122
Total	512,551	516,774	505,541	520,174	529,708

Source: Information and Communication Technology Centre, Office of the Permanent Secretary, Ministry of Transport, Bangkok, Thailand.

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Overview of the Retread Truck Tire Industry in Thailand

Retread Truck Tire Industry in Thailand – Road Transportation





The number of cumulative registered trucks in Thailand is 1,007,576.

(Source: Department of Land Transport, Ministry of Transport, as of December 31, 2014)

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Retread Truck Tire Industry in Thailand - Retread Tire Plant Statistics



75 Plants

Source: Research and Development Centre for Thai Rubber Industry, Mahidol University, Thailand

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Overview of the Retread Truck Tire Industry in Thailand

Retread Truck Tire Industry in Thailand – Production Statistics

Year	Domestic Production (Tire)
2012	117,986
2013	140,825
2014	133,282
April, 2015	46,720

Source: Office of Industrial Economics, Ministry of Industry, Thailand

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A Development on Design and Making for the Precision and Complex Mould of Retread Tires used with Trucks (2012)



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A Development on Design and Making for the Precision and Complex Mould of Retread Tires used with Trucks

Objective

To develop the design and manufacturing for tread pattern through die casting process and Computer Aided Design and Manufacturing (CAD/CAM)

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Original Designed Tread Pattern: BSD (Bumrungyang Supasit Development) Model



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A Study on Development of the Truck Retreaded Tire for Transportation Efficiency Improvement



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A Study on Development of the Truck Retreaded Tire for Transportation Efficiency Improvement

Objective

To perform a transportation efficiency improvement based on tire pattern design

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A Study on Development of the Truck Retreaded Tire for Transportation Efficiency Improvement -Laboratory Testing







Rolling Resistance Coefficient, RRC

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A Study on Development of the Truck Retreaded Tire for Transportation Efficiency Improvement – Comparison & Conclusion

- Ongoing work: The Design of Novel Tread Patterns is under development.
- ❖A Part of Ph.D. Dissertation by Mr. Chukree Daesa, a CERM Researcher



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An Analysis of the Retread Tire Footprint - A part of the M.S Thesis (Mr.Saravut Thanakul)



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Research and Development of the Retread Truck Tire in Thailand

An Analysis of the Retread Tire Footprint

Objective

To empirically and numerically investigate the Factors Affecting the Footprint of a Retread Tire

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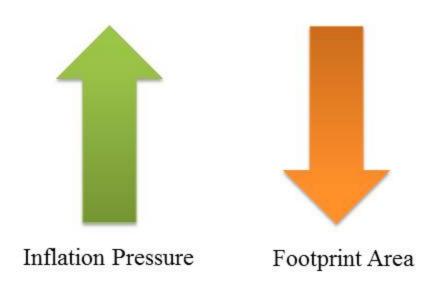
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Research and Development of the Retread Truck Tire in Thailand

An Analysis of the Retread Tire Footprint - Comparison & Conclusion



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Comments from a Representative from Thailand Retread Tire Industry



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