ASTM Peak Tire Study

14” E1136 vs 16” F2493 SRTTs

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Background

The ASTM E1136 Standard Reference Test Tire (SRTT) has been supplied by Michelin for 30 years and is used for a variety of tests such as tread wear and traction. This is a 14” tire and has become outdated from a manufacturing and raw materials standpoint. Therefore, Michelin has announced that it will discontinue the production of this tire at some point in the future. This tire is specified by the ASTM E1337 Peak Brake Coefficient (PBC) Test Standard for which E17.21 is responsible.

Michelin also makes a 16” SRTT (ASTM F2493) and has recommended that it be used as a replacement for the 14” tire as its longevity is much more secure. Since the 14” SRTT and 16” SRTT are not similar in any way, a study was needed.

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14” SRTT

16” SRTT

Photos

14” SRTT

16” SRTT

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Approach

Michelin supplied samples of each size tire for the study.

The Transportation Research Center E274 Locked Wheel Tester was used for the testing. It is one of the two standards in the US for correlating Skid Systems and uses an original KJ Law trailer designed for experimental testing.

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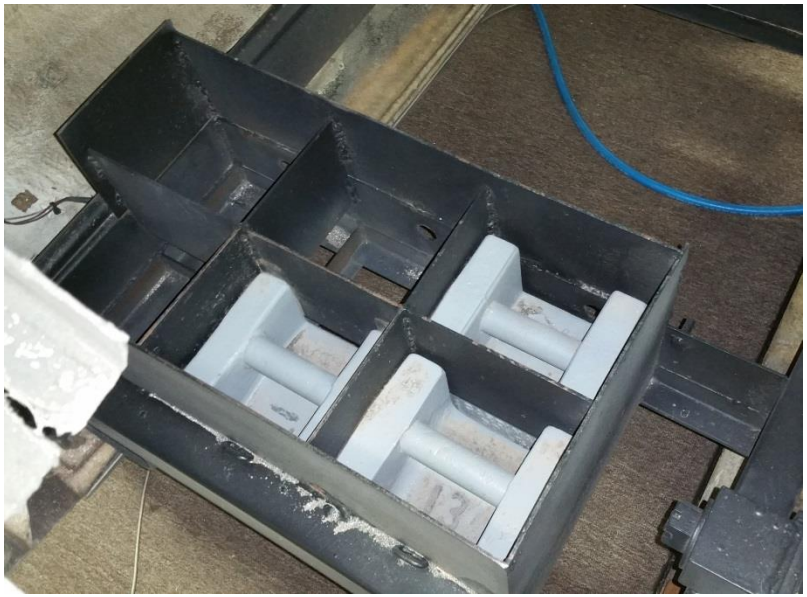
Approach

The body lifts up and weights can be distributed into the various locations to adjust the tire test weight as needed.



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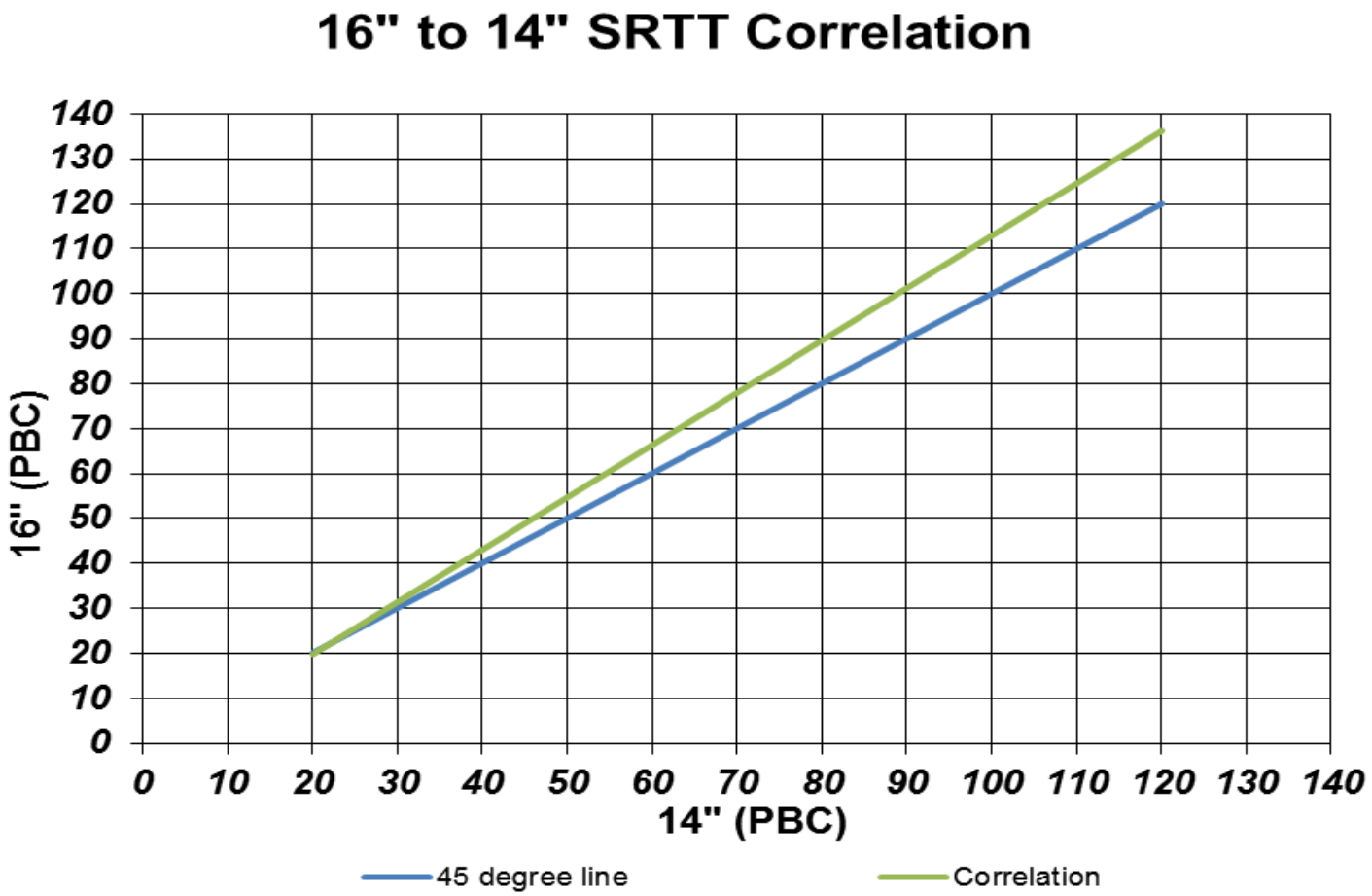
Regression Analysis



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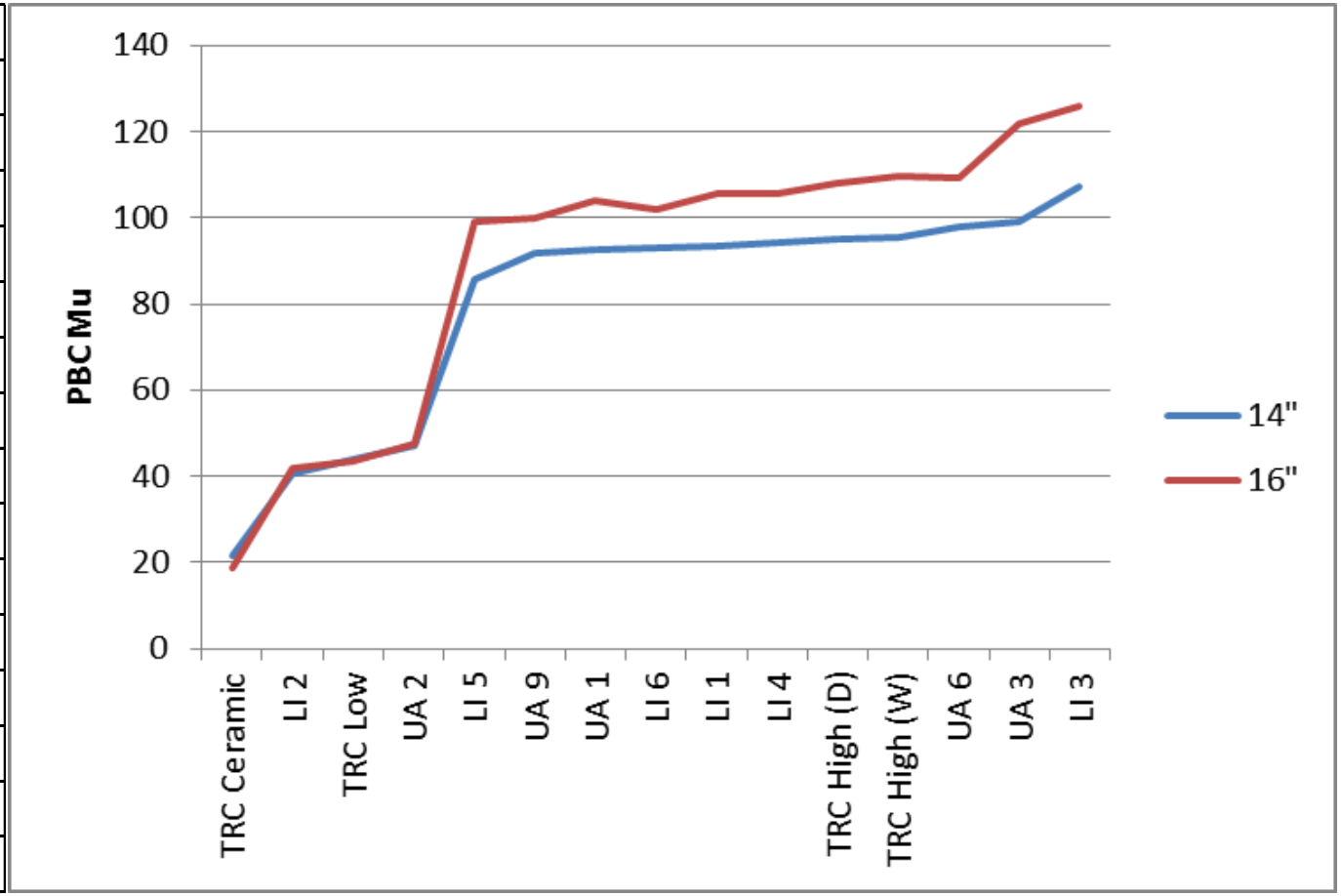
Combined Data

Surface	14"	16"
TRC Ceramic	21.8	18.8
LI 2	40.6	42.1
TRC Low	43.9	43.5
UA 2	47.1	47.7
LI 5	85.6	99.2
UA 9	92.0	100.0
UA 1	92.7	103.8
LI 6	93.1	101.9
LI 1	93.2	105.7
LI 4	94.3	105.6
TRC High (D)	95.0	108.0
TRC High (W)	95.5	109.6
UA 6	98.0	109.1
UA 3	99.1	121.8
LI 3	107.2	125.7



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