

Understanding Tire Sizes

By Carl Lynn
UTQC

If you don't have data pages or need dimensional information for a tire size, you can calculate nominal dimensions by using the following calculations. Individual tires may vary slightly from these dimensions.

For example, a tire with size 235/60 HR15:

235 is the section width in mm. This tire is 235mm wide.
60 is the aspect ratio. 60% of 235 is the height of the tire.

HR is the speed rating.

15 is the size of the rim in inches.

235 To convert to inches:

Formula:
Section Width in millimetres / 25.4 = Section Width in inches.

Example:
235 / 25.4 = 9.25" Nominal Section width.>

60 To calculate Tire Section Height:

ENTER TIRE	ENTER TIRE	ENTER TIRE
STOCK SIZE	STOCK SIZE	Nitto NT-01
		100
Enter three (3) parameters in yellow below to determine tire revolutions per mile	Enter three (3) parameters in yellow below to determine tire revolutions per mile	Enter three (3) parameters in yellow below to determine tire revolutions per mile
Proposed Front.	Proposed Rear	Proposed Front.
Enter Tire Section	Enter Tire Section	Enter Tire Section
235	255	235
Enter Aspect Ratio, Example, .60 = 60%	Enter Aspect Ratio, Example, .60 = 60%	Enter Aspect Ratio, Example, .60 = 60%
40%	40%	35%
Enter Wheel Size, Example, 16, 17, 18, 19	Enter Wheel Size, Example, 16, 17, 18, 19	Enter Wheel Size, Example, 16, 17, 18, 19
19	19	19
9.25	10.04	9.25

FORMULA:

Section Width x Aspect Ratio Percentage
= Section Height.

EXAMPLE:

9.25" x 60% = 5.55" Nominal Section Height.

15 To calculate Nominal Overall Tire Diameter:

FORMULA:

(Section Height x 2) + Wheel Diameter
=Overall Tire Diameter.

EXAMPLE:

(5.55 x 2) + 15 = 26.1 " Nominal Overall
Diameter.

To estimate Tire Revolutions Per Mile:

FORMULA:

20,800 / Overall Tire Diameter
=Tire Revolutions Per Mile

EXAMPLE:

20,800 / 26.1 " = 796.9 Tire Revolutions
Per Mile.

Front to Rear Tire Percentage Delta
GOAL: 3% or <

This section width is correct; assuming the tire is mounted on a wheel width that is 70% of the section width as specified by the Tire and Rim Association for measurement. In this case the rim would be 6.48" wide.

3.70

4.02

3.24

26.40

27.03

0.63

25.48

788

769

816

2.33%

Excellent

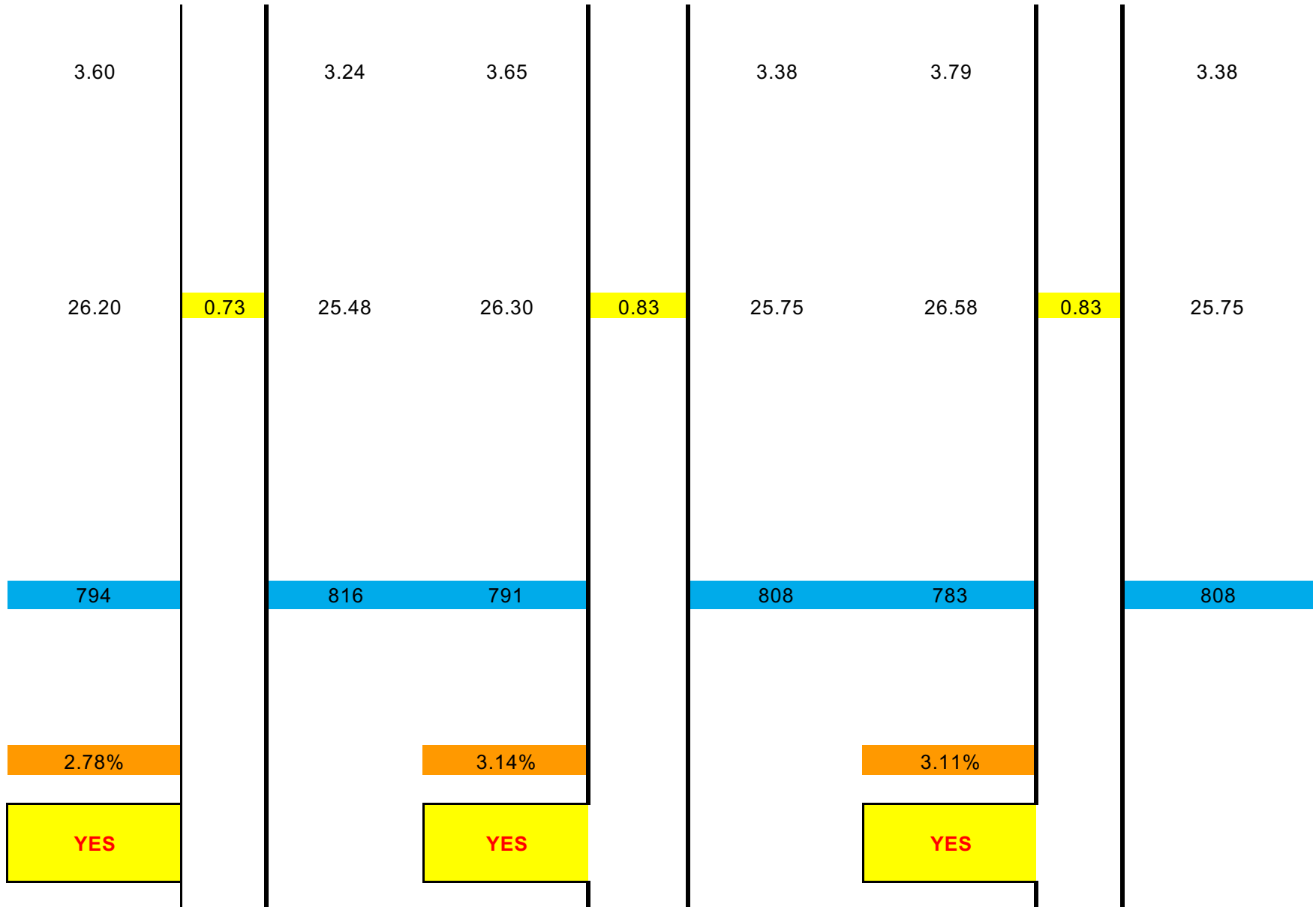
Since a tire's section width changes 0.2" for every 0.5" change in rim width, this change must be added or subtracted from the section width when alternate rim widths are being considered.

The tire's section width of 9.25" would be virtually unchanged when mounted on a 6.5" wheel, would increase to 9.45" when mounted on a 7.0" wide wheel, and would further increase to 9.85" when mounted on an 8.0" wide wheel.

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Price

ENTER TIRE		ENTER TIRE		ENTER TIRE		ENTER TIRE		ENTER TIRE	
Nitto NT-01	Dia. Delta	Toyo Proxes R888R	Toyo Proxes R888R	Dia. Delta	Hankook RS4	Hankook RS4	Dia. Delta	RE 71R	
100		100	100		200	200		200	
Enter three (3) parameters in yellow below to determine tire revolutions per mile		Enter three (3) parameters in yellow below to determine tire revolutions per mile	Enter three (3) parameters in yellow below to determine tire revolutions per mile		Enter three (3) parameters in yellow below to determine tire revolutions per mile	Enter three (3) parameters in yellow below to determine tire revolutions per mile		Enter three (3) parameters in yellow below to determine tire revolutions per mile	
Proposed Rear		Proposed Front.	Proposed Rear		Proposed Front.	Proposed Rear		Proposed Front.	
Enter Tire Section		Enter Tire Section	Enter Tire Section		Enter Tire Section	Enter Tire Section		Enter Tire Section	
305	Too wide	235	265		245	275		245	
Enter Aspect Ratio, Example, .60 = 60%		Enter Aspect Ratio, Example, .60 = 60%	Enter Aspect Ratio, Example, .60 = 60%		Enter Aspect Ratio, Example, .60 = 60%	Enter Aspect Ratio, Example, .60 = 60%		Enter Aspect Ratio, Example, .60 = 60%	
30%		35%	35%		35%	35%		35%	
Enter Wheel Size, Example, 16, 17, 18, 19		Enter Wheel Size, Example, 16, 17, 18, 19	Enter Wheel Size, Example, 16, 17, 18, 19		Enter Wheel Size, Example, 16, 17, 18, 19	Enter Wheel Size, Example, 16, 17, 18, 19		Enter Wheel Size, Example, 16, 17, 18, 19	
19		19	19		19	19		19	
12.01		9.25	10.43		9.65	10.83		9.65	



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100
Americas Tire

UTQC	100
Price	\$1,238
	Americas Tire

UTQC	200
Price	\$1,233
	Tire Rack

UTQC
Price

ANTHONY'S TIRE	Every Day Price	
Michael	\$600	<Front
	670	<Rear
	\$1,270	

Includes Mount & Balance

ENTER TIRE

RE 71R

200

**Dia.
Delta**

Enter three (3) parameters in **yellow** below to determine tire revolutions per mile

Proposed Rear

Enter Tire Section

275

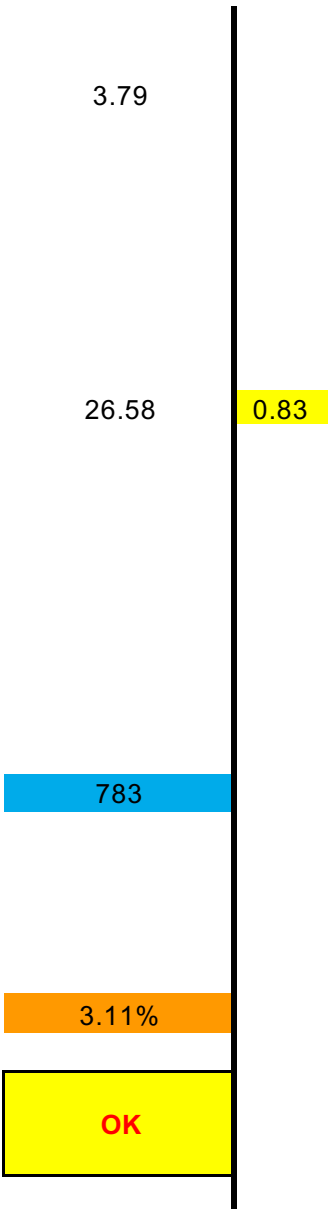
Enter Aspect Ratio, Example, .60 = 60%

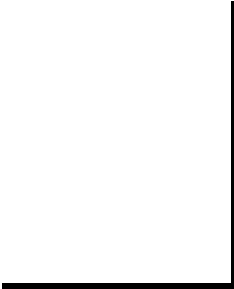
35%

Enter Wheel Size, Example, 16, 17, 18, 19

19

10.83





200
\$1,164
Discount Tire Direct