

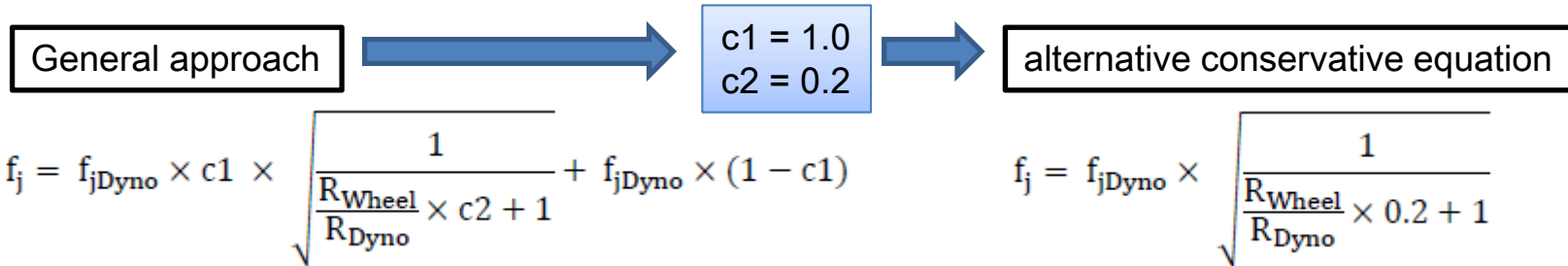
Roller radius correction

September, 2016

Japan

Radius correction factor

6.6.3. of Annex 4



The manufacturer and responsible authority shall agree on the factors c1 and c2 to be used, based on correlation test evidence provided by the manufacturer for the range of tyre characteristics intended to be tested on the chassis dynamometer.

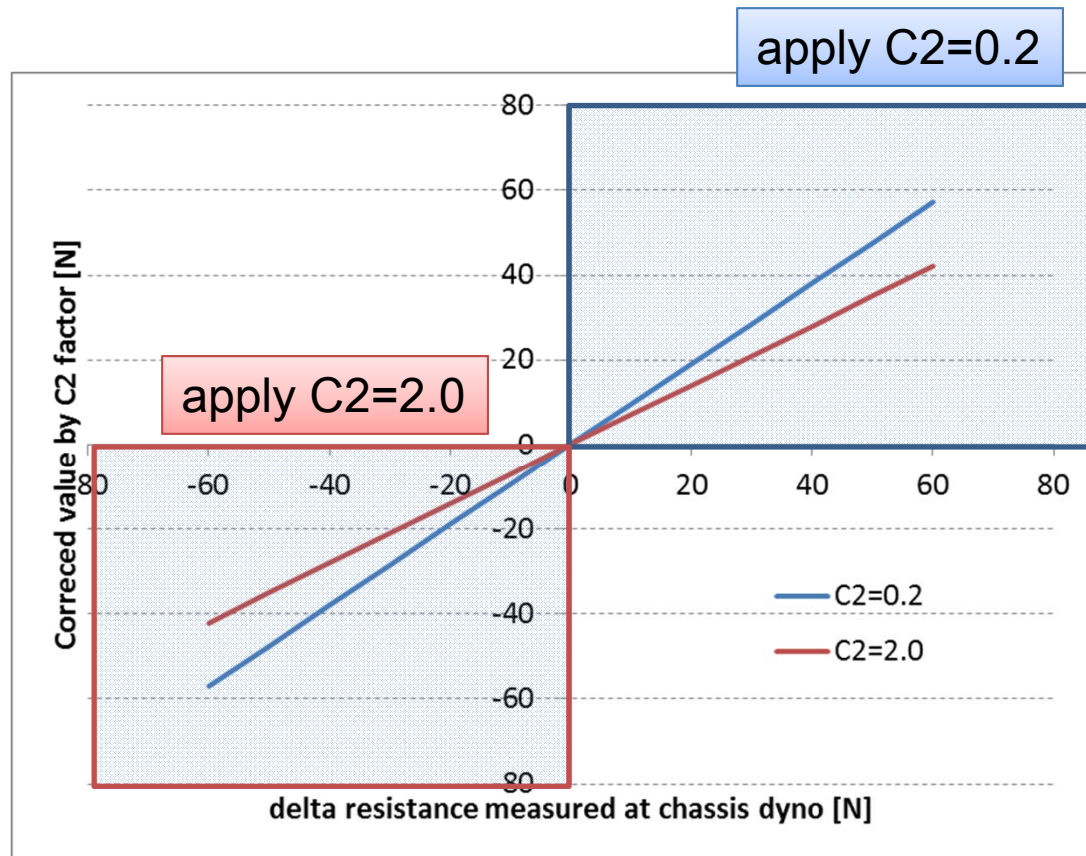
Application	C1 = 1.0 (bigger value)	C2 = 0.2 (smaller value)
Absolute value	Less conservative	Conservative
Delta value >0	Less conservative	Conservative
Delta value <0	Conservative	Less conservative

“conservative equation” will not be always conservative.

Radius correction factor

Proposal:

- If C2 was approved by authority based on the requirement of paragraph 6.6.3., the C2 should be used for delta calculation.
- If not, conservative C2 should be used which is C2=0.2 for positive side, C2=2.0 for negative side.



example calculation

C2 values (reduction %)

VW:	0.2	(-5%)
(used in Phase1b GTR)		
ISO 18164:	1.0	(-20%)
SAE J1269:	1.0	(-20%)
JSAE:	1.0	(-20%)
Clark equation:	1.0	(-20%)
Other study1:	0.5	(-30%)

GTR Text proposal

CURRENT

Paragraph 6.6.3 of annex 4.

As an alternative the following conservative equation may be used:

$$f_j = f_{j\text{Dyno}} \times \sqrt{\frac{1}{\frac{R_{\text{Wheel}}}{R_{\text{Dyno}}} \times 0.2 + 1}}$$

Proposal

Paragraph 6.6.3 of annex 4.

As an alternative the following conservative equation may be used:

$$f_j = f_{j\text{Dyno}} \times \sqrt{\frac{1}{\frac{R_{\text{Wheel}}}{R_{\text{Dyno}}} \times C2 + 1}}$$

C2 shall be 0.2 except that 2.0 shall be used if the delta road load method (see paragraph 6.8. of this annex) is used and the delta road load calculated according to the paragraph 6.8.1. of this annex is negative.