

# Development of Roughness Models for the Definition of Roughness Specifications

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**ABSTRACT:** These mandatory guidelines are provided for preparation of papers for the Second International Conference on Transport Infrastructures, August 4 - 6, 2010, São Paulo, Brazil. To assure timely and efficient production of the proceedings with a consistent and easily readable format, authors must submit their manuscripts in strict conformity with these guidelines. Abstracts should be sent to conference secretariat ([icti2010@civil.uminho.pt](mailto:icti2010@civil.uminho.pt)) by January 31<sup>st</sup>, 2010, according to the following guidelines: a) extent, maximum of 300 words, Times New Roman, 12-point type (12pt); b) title, Times New Roman, 16, aligned left; c) authors name: first author's name, in the following line, 12pt; others authors repeat this procedure; d) keywords, maximum 6 in one line. The notification of the abstracts evaluation will be sent to the authors by February 15<sup>th</sup>, 2010. The proceedings will be distributed to participants at the Conference site. Your cooperation in adhering to these guidelines and in observing the deadline is greatly appreciated by the Organising Committee. The instructions in this guideline document have been prepared in the requested format for publication in the Conference proceedings.

**Key Words:** Pavement, Roughness, Panel users, Models, Specifications.

## 1. TITLE, AUTHORS, AFFILIATION

The title of the paper manuscript must be in title letters, Times New Roman, 16pt, and aligned left. Use more than one line if necessary, but always use single-line spacing.

After one blank line, aligned left, type the First Author's name (first the initial of the first name, then the last name) followed by a period (.). If any of the co-authors has/have the same affiliation as the first author, add his/her name after an "&" (or a comma if more names follow). In the following line type the affiliation (Name of the institution, City, State/Province, Country). If there are authors linked to other institutions, after a blank line, repeat this procedure.

The author name must be in Times New Roman, regular and 12pt. The affiliation must be in Times New Roman, *italic*, and 10pt.

## 2. ABSTRACT

Between the last author and the abstract please leave six (6) blank lines. Type the text of the abstract in Times New Roman, 12pt and single-spaced. It must be written in one paragraph,

with a maximum of 300 words, after a space behind the word ABSTRACT (capital letters). After leaving one blank line, type the word Key Words: (capital letters, Times New Roman, 12pt), followed by a colon (:). Please include a maximum of six (6) key words. Please capitalize the first letter of each keyword.

The first heading should follow the key words, after leaving two blank lines.

### 3. THE TEXT

The proceedings will be produced directly from author-prepared manuscripts, in electronic form, in A4 paper size 297 mm x 210 mm. The main body text of the manuscript (the first paragraph) follows the key words, after two blank lines.

Never use bold. Never underline any text. Do not insert headers, footers and page numbers.

All papers, using Word2003 (or 2007) processor, are limited to a size of no more than 10 single-spaced pages, including figures, tables and references. The font type of the body text including the abstract of all papers, should be Times New Roman, 12-point type and should be justified. The upper and lower margins of the paper should be of 2,5 cm, with left and right margins of 2,5 cm (from edge, header and footer: 1,2 cm).

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#### 3.1. Headings and subheadings

The headings (3.1) and subheadings (3.1.1) must be typed capitalizing only the first word, Times New Roman, 12pt. The headings, subheadings and the first lines of text following the headings and subheadings must not be indented.

There are two blank lines before and one after the heading or subheading. All headings and subheadings must be numbered, aligned left.

The first line of a paragraph which follows after a heading or a subheading should not be indented. However, the first line of the following paragraphs must be indented 5 mm.

If a heading or subheading falls at the bottom of a page it will be transferred to the top of the next page.

#### 3.2. Figures and tables

Figures, line drawings, photographs and tables should be placed in the appropriate location, centered and positioned close to its citation in the document. They should have a caption, Times New Roman 12-point type, with a colon separating the figure number and the title (Figure 2: Small-wheel trailer to measure brake-force coefficient (Stevenson, 1950); Table 2: Extract from the Road Directorate circular (Lacroix, 2008)) and be numbered consecutively, e.g. Figure 1, Figure 2, Table 1 and Table 2.

Table titles should be placed at the top of the table, centered, separated by one blank line of 6 points from it. After a table, or its legend (this one placed at the bottom of the table with no space), leave a blank line of 12 points.

Figure titles should be placed centered at the bottom of the figure. After the last line of a paragraph, leave a blank line of 12 points before inserting the figure. Between the figure and its legend leave a blank line of 6 points. After the figure title leave a blank line of 12 points before starting the next paragraph.

Text within the tables must be typed with 10pt.

Please follow the examples below as reference when inserting figures and tables in the text.

e.g. Developments in measurement techniques continued after the Second World War, moving to rather safer front-wheel drive cars with an internally-mounted angled wheel to measure sideways-force coefficient (SFC) and a towed trailer with a small, lockable, wheel to measure braking force coefficient (BFC) at different speeds (Figure 2). It rapidly became apparent that standardisation of test conditions was important and so these devices tended to use standard tyres with smooth tread and were operated at controlled speeds.

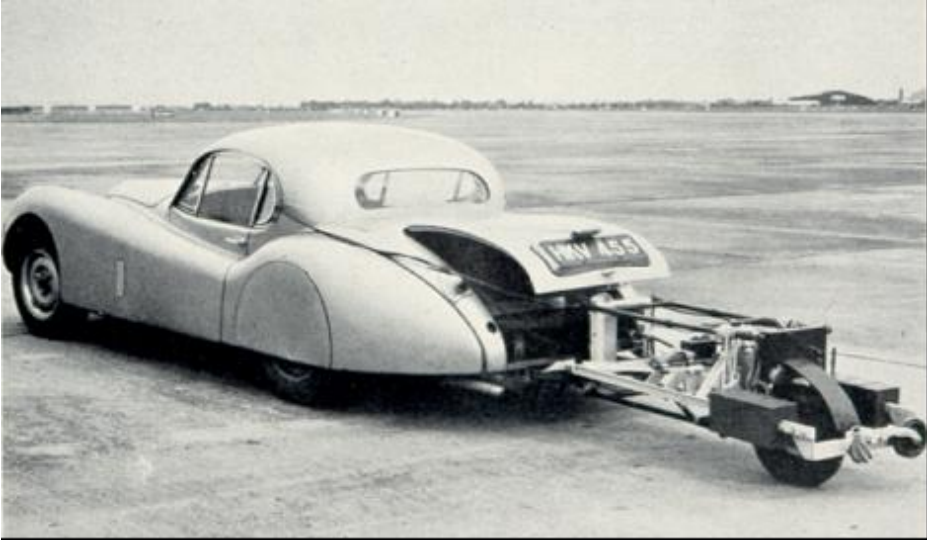


Figure 2: Small-wheel trailer to measure brake-force coefficient (Stevenson, 1950)

Other machines were built in that period that allowed the performance of different tyres to be assessed but work on road surfaces depended primarily on the use of the side-force cars.

In Table 2 some values extracted from this circular can be found.

Table 2: Extract from the Road Directorate circular (Lacroix, 2008)

Area	Speed (km/h)	Road category	Threshold MPD values for M and R (mm)
Urban	50 to 90 km/h	Distribution roads	M = 0.3 R = 0.4
	≥ 90 km/h	Fast roads	M = 0.4 R = 0.6
Sub Urban	≥ 90 km/h	Bi-directional roads	M = 0.4 R = 0.6
	≥ 110 km/h	Motorways or roads with separate pavements	M = 0.4 R = 0.6
	≥ 110 km/h	Motorways or roads with separate pavements: special sections	M = 0.5 R = 0.7 or M = 0.6 R = 0.8

M = minimum; R = advised levels for a new pavement

### 3.3. References

At the end of the paper, list all references in alphabetical order, underneath the heading REFERENCES, as in the example. References should be cited in the text through the last name of the author and the year of publication (one author: Lacroix, 2008; two authors: Parker and Stevenson, 2008; more than two authors: Parker *et al.*, 2008).

## REFERENCES

Parker, R., Stevenson, G. and Lacroix, Y., 2008. *Development of Roughness Models for the Definition of Roughness Specifications*. First International Conference on Transport Infrastructures, Beijing, April.

## PAPER SUBMISSION DEADLINE

The final date for the submission of papers (digital form, by e-mail, as an attached Word2003 (or 2007) document file) is April 15<sup>th</sup>, 2010.

All papers will be peer reviewed. Authors will be informed of the evaluation result:

(i) Accepted; ii) Accepted with minor revision; iii) Rejected, by May 15<sup>th</sup>, 2010.

The final digital copy of the final paper, duly revised, and the signed copyright transfer agreement must be sent to the conference secretariat by May 31<sup>st</sup>, 2010.

Papers may not be published in the conference proceedings either if they have not been received by the due date or if the author is not registered by June 5<sup>th</sup>, 2010.

The Organising Committee may disregard any paper that does not conform to these Guidelines.

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