

THESIS REVIEWER'S OPINION						
Student's full name	BSc. Sudhir Kumar					
Thesis title	Influence of interrupted vulcanization on the rubber to metal bonding strength					
Reviewer's name	Ing. Petr Zádřapa, Ph.D.					
Degree course	Polymer Engineering					
Mode of study	Full-time					
<b>Thesis evaluation criteria</b>	<b>Classification grade according to ECTS</b>					
<b>Structure</b>						
Outline and division	A	B	C	D	E	F
Language level	A	B	C	D	E	F
Formatting (citations, presentation)	A	B	C	D	E	F
<b>Content</b>						
Thesis statement formulation	A	B	C	D	E	F
Sources and their utilization	A	B	C	D	E	F
Methods of processing the research problem	A	B	C	D	E	F
Level of analytical and interpretive components	A	B	C	D	E	F
Formulation of conclusions and meeting the objectives	A	B	C	D	E	F
Originality and vocational contribution	A	B	C	D	E	F
<b>Evaluation justification (strengths and weaknesses of thesis):</b>						
<p>Presented master thesis deals with the effect of interrupted vulcanization of the rubber on the rubber to metal bonding.</p> <p>The goals of the work are as follows:</p> <ul style="list-style-type: none"> <li>- make a literature review on the given topic</li> <li>- prepare rubber mixtures differing in their composition</li> <li>- perform vulcanization of suggested rubber mixtures interrupted at different degrees</li> <li>- measure the stiffness of prepared rubber to metal bonding</li> <li>- evaluate and interpret obtained results</li> </ul> <p>Total length of the work is 75 pages. The theoretical part is written on 34 pages and at the beginning it contains description of rubber types and additives. Vulcanization of the rubber is clarified in the next chapter and last chapter deals with rubber to metal bonding. Theoretical part drawn inspiration from 56 references mostly from last 15 years. Formal level has quite high quality as well as language level.</p> <p>Practical part is written on 21 pages and its quality is lower. Rubber compounds were chosen from some company with unknown composition, not prepared as is given by the second aim of the work. Vulcanization curves have an important role in thesis, however they are missing at all, although RPA is described as used device.</p> <p>All results are given in graphs. The discussion is always given in previous page than the graph is, which is not very clear. There is also not mentioned, how many samples were tested and statistics is missing at all.</p> <p>In my opinion, the quality and interpretation of the results should be done in better way. All that thing are reflected in my marking.</p> <p>Therefore, I recommended the thesis for the defense.</p>						

**Questions to be answered by student:**

1. What was the main purpose of this work? Why did you use commercial compounds?
2. How many samples did you test for each compound and each vulcanization degree?
3. Why do you think, that sulphur is the main reason of the best bonding at 70 % interrupted vulcanization?
4. Why you did not use some mould for the sample preparation? In this case, you can obtain the results also from the samples with low degree of pre-vulcanization.

**Overall mark\*\***

A	B	C	D	E	F
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Date: 26<sup>th</sup> May 2014

Signature:

\* Circle the appropriate determination.

\*\* Overall mark is not a mathematical average of individual marks.