



SDI Review Form 1.6

Journal Name:	Journal of Engineering Research and Reports
Manuscript Number:	Ms_JERR_49974
Title of the Manuscript:	A numerical study of the generated stresses in the separation points of the tensile element (chain) of the plate conveyor used in the blowing unit for water factories
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Compulsory REVISION comments</p>	<p>Title: try revising the title, generated word many not be suitable for this work</p> <p>2.2 Boundary conditions: Equation number is not written, write nomenclature for all the terms used in the equation. Show one example of the calculation. Presently it is not clear to the reader.</p>	<p>It has been corrected.</p> <p>Equation number has been written, but the example of the calculation is not suitable to be added:</p> <p>The tensile forces are determined at all points, starting from the point where the leading tensile element departs and moves in the direction of the movement of the conveyor according to the following equation:</p> <p>The tensile force at the next point (S_{i+1}) is equal to the sum of the tensile force at the previous point (S_i) and the motion resistance strength of the part between two points ($W_{i \rightarrow i+1}$)</p> $S_{i+1} = S_i + W_{i \rightarrow i+1} \quad (1)$ <p>At the used conveyor and figure (4) :</p> $W_{i \rightarrow i+1} = W_{3 \rightarrow 4} = W_{1 \rightarrow 2} = [(q_m + q_T) \cdot g \cdot L_{1 \rightarrow 2} \cdot W_c] \quad (2)$ <p>q_m: the linear mass of the material. q_T: the linear mass of the conveyor. g: the gravitation . $L_{1 \rightarrow 2}$: the distance between the axis of the leading pulley and the axis of the conducted pulley . W_c: the general constant to the resistance of the chain transmission.</p> <p>In rolling bearing : $W_c = 0.03 : 0.04$ According to the data : $W_{3 \rightarrow 4} = W_{1 \rightarrow 2} = 27.78N$ The total resistance: W_0 $[(K - 1) \cdot (S_{max} + S_{min})] \quad (3) + (S_{max} - S_{min}) = W_0$ K: the total resistance factor ,taken according to the enclosure angle. $\alpha = 180^\circ \Rightarrow k = 1.07 - 1.08$</p> <p>And which it also given in the following relationship : $W_0 = \frac{N \cdot 1000 \cdot \eta}{V} \quad (4)$. V: The linear speed of the chain. N: The engine power. η: the mechanical output .</p> $W_0 = 1013.46N$ <p>From the item values shown in equation (4) : [4]</p> <p>By applying the above equation(1) at each point :</p> $S_1 = S_{min} \quad (5)$ $S_2 = S_1 + W_{1 \rightarrow 2} \quad (6)$ $S_3 = S_2 * K \quad (7)$ $S_4 = S_{max} = S_3 + W_{1 \rightarrow 2} \quad (8)$



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	<p>What is the difference in sections 2.2 and 2.3 – both are same try combining them and write suitably.</p> <p>What reason Maximum Principal stress criterion is used in the analysis?</p> <p>Von Mises stress possibly is more suitable in such analysis because the material considered is ductile. As the material used is ductile, authors can also try Tresca and Von Mises stress and these results can help to analyze better.</p>	<p>From the equations (5,6,7,8) :</p> $S_2 = (S_1 + W_{1 \rightarrow 2}) * K \rightarrow S_{max} = (S_1 + W_{1 \rightarrow 2}) * K + W_{2 \rightarrow 4} \quad (9)$ <p>By offset equation (9) in relation (3) : the following values were obtained:</p> $S_1 = S_{min} = 3859.8N, S_4 = S_{MAX} = 4226.88N$ $S_2 = 3887.38N, S_3 = 4198.58N$ <p>Where :</p> <p>S_1: the maximum tensile strength .</p> <p>S_4: the minimum tensile strength .</p> <p>S_2: the tensile strength at the point 2.</p> <p>S_3: the tensile strength at the point 3.</p> <p>Thus the applied load is equivalent to : $f_k = \frac{S_4}{2} = 2113.19N$, This is because the chain is double joint. Figure (5) shows loading surface and applied load</p> <p>It has been corrected.</p> <p>It is suitable to use Maximum Principal stress criterion in such static analysis.</p> <p>It is also suitable to use Maximum Principal stress criterion in such static analysis.</p>
<p>Minor REVISION comments</p>	<p>Try to write the paper error free</p>	<p>Done</p>
<p>Optional/General comments</p>	<p>Good work</p>	<p>Thank you very much</p>

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Are there ethical issues in this manuscript?</p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	