

IT 507 Measurement and Evaluation in Industry and Technology
Homework Assignment 7

Assigned date: Feb. 24, 2016

PART 1: Text Book End of Chapter Exercises (all students)

Due date: Tuesday, March 1, 2016, before 6 PM class time (email submission of hw 7 in Microsoft Word file format, with needed Excel, Minitab solutions, MATLAB, and/or Tables)

***Must show detailed calculation to receive full credit.**

Chapter 4. Continuous Random Variables and Probability Distributions

Exercises: 4-95, 4-96, 4-100, 4-101, 4-112, 4-118, 4-119

PART 2: Process Improvement to Reduce Cavitation Damage on Cold Forming of Titanium Wire Drawing (Temporary Project Title) – **Due by March 1, 2016**

* Project Leader – Stephen G. Mitchell (Problem and description, random RVs of interest, raw Titanium CP4 material and cold forming process, data collection, etc) -- Already given two documents and discussed (NO new action needed)

* Andrew Reichel – Wire Drawing Machine & Process (a soft copy of report related to the current assignment, with needed Vision drawings; plus citation given and added references)

* Mageed Almotari – Die and Anneal (a soft copy of report related to the current assignment, with needed Vision drawings, plus citation of given and other added references)

* Abid Latif – Wire Cleaning Using Ultra Sonic System (a soft copy of report related to the current assignment, with needed Vision drawings, plus citation of given and other added references)

References

- 1) Fort Wayne Metals Resource Library, <http://www.fwmetals.com/services/resource-library/unalloyed-commercially-pure-cp-titanium1/>
- 2) Commercially Pure Titanium, <https://www.atimetals.com/products/pages/ati-cp4.aspx>
- 3) Technical Data Sheet - CP Titanium Grade 4, Carpenter, <http://cartech.ides.com/datasheet.aspx?i=101&E=267>
- 4) Titanium Grade 4, <http://asm.matweb.com/search/SpecificMaterial.asp?bassnum=MTU040>
- 5) A Review on Biomaterial in Dental Implantology, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4614011/>
- 6) Implant Material (unalloyed Titanium), six edition, <http://www.synthes.com/sites/NA/NAContent/Docs/Product%20Support%20Materials/Materials%20Booklets/Implant%20Materials%20-%20Unalloyed%20Titanium.pdf>
- 7) Use of Cp Titanium and Titanium Alloy for Dental Implants, http://c.ymcdn.com/sites/www.titanium.org/resource/resmgr/2005_2009_papers/Hurson2006.pdf
- 8) Wire drawing, https://en.wikipedia.org/wiki/Wire_drawing
- 9) Machinery Equipment - Titanium Alloy, <http://www.ticolor.com.tw/en/equipment.html>
- 10) B-Tech Solutions, <http://btecsolutions.com/>
- 11) Extrusion and Drawing of Metals, <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=2&cad=rja&uact=8&ved=0ahUKewiR4PTZk5HLAhWikYMKHaEmA8wQFggjMAE&url=https%3A%2F%2Fwww3.nd.>

[edu%2F~manufact%2FMET_Powerpoint_files%2FCh15.ppt&usg=AFQjCNHxCCjUKVv-uT5G_7Ah8aBK-yznnw&bvm=bv.115277099,d.amc](#)

12) Drawing of Rods, Wires and Tubes,

http://eng.sut.ac.th/metal/images/stories/pdf/05_Drawing%20of%20rod-wire%20and%20tubes.pdf