

# **Collation of FlexPLI Pendulum Certification Test Results**

**7<sup>th</sup> Meeting of Informal Group GTR9 Phase 2  
July 3<sup>rd</sup>, 2013**

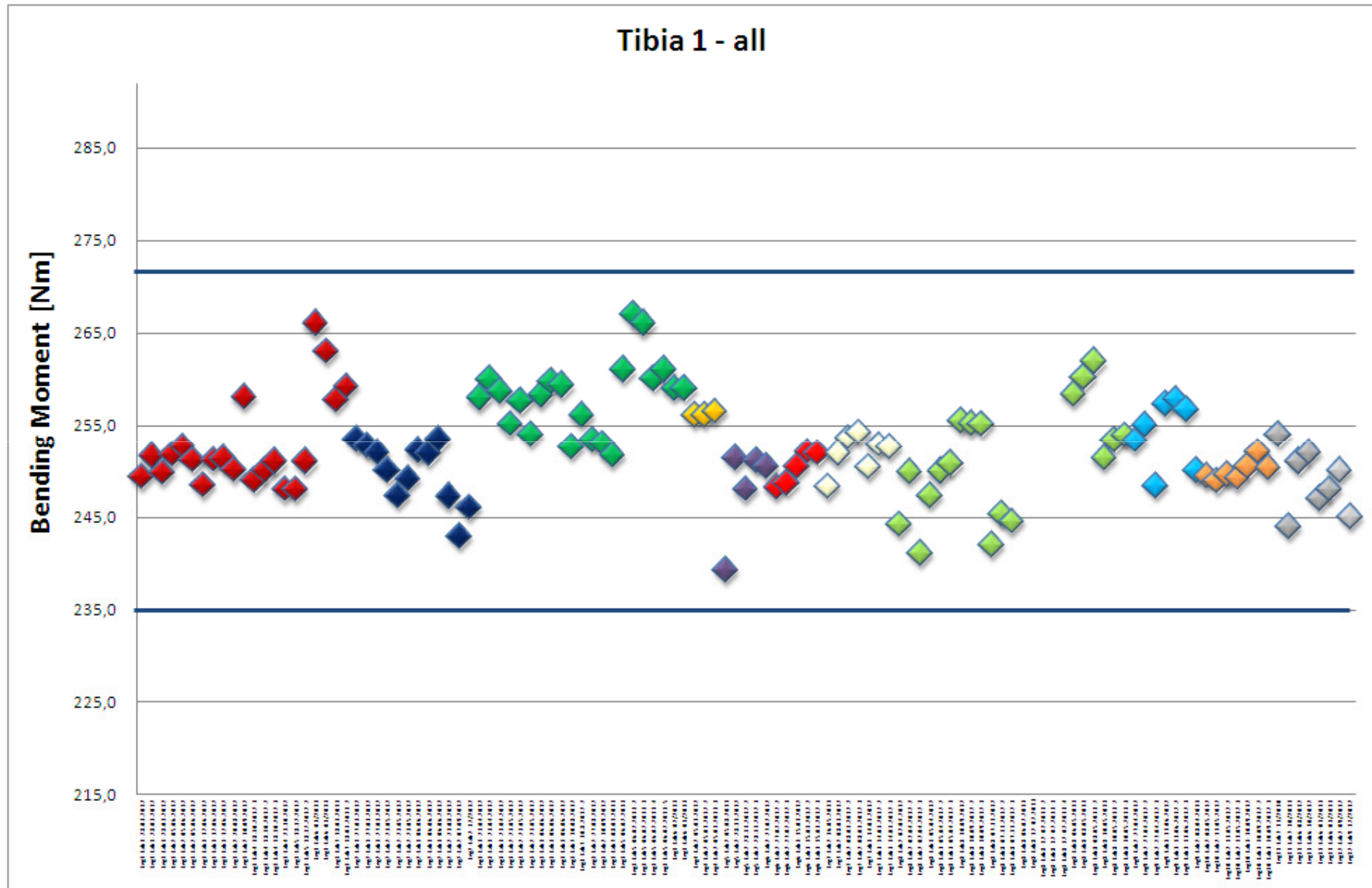
**Oliver Zander**  
Bundesanstalt für Straßenwesen

**Bundesanstalt für Straßenwesen**  
(Federal Highway Research Institute)

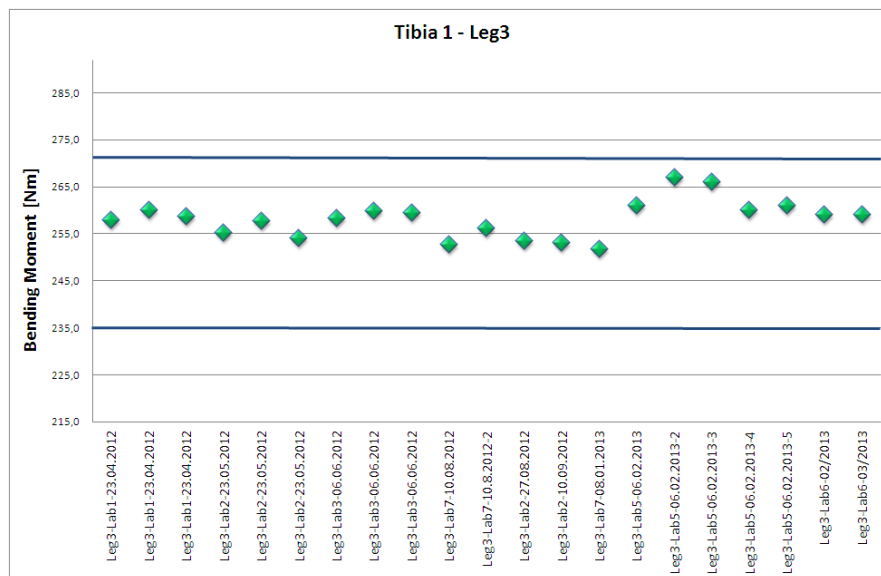
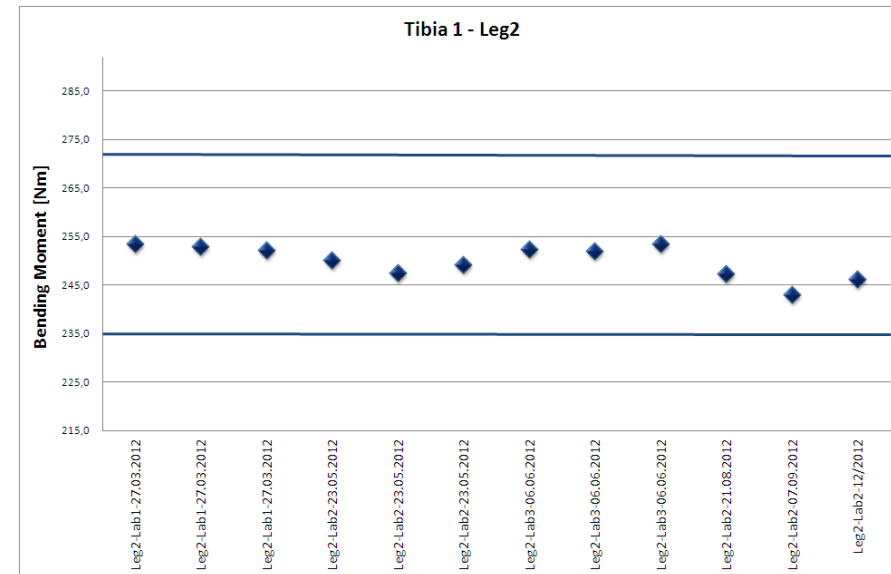
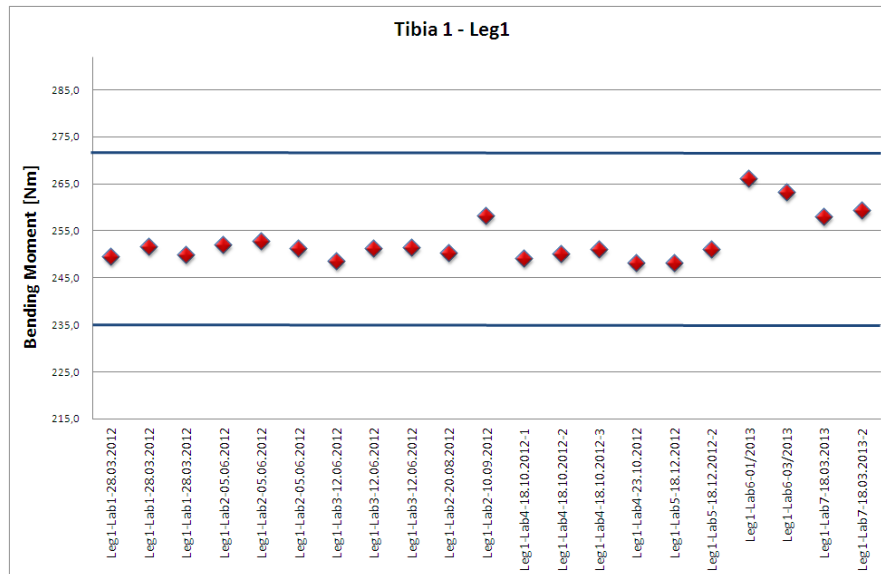
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- **12 impactors**
  - **1 prototype (leg 4)**
  - **11 serial production legs**
- **9 test labs**
- **119 tests**
  - **3 tests w/ prototype**
  - **116 tests w/ serial production legs**

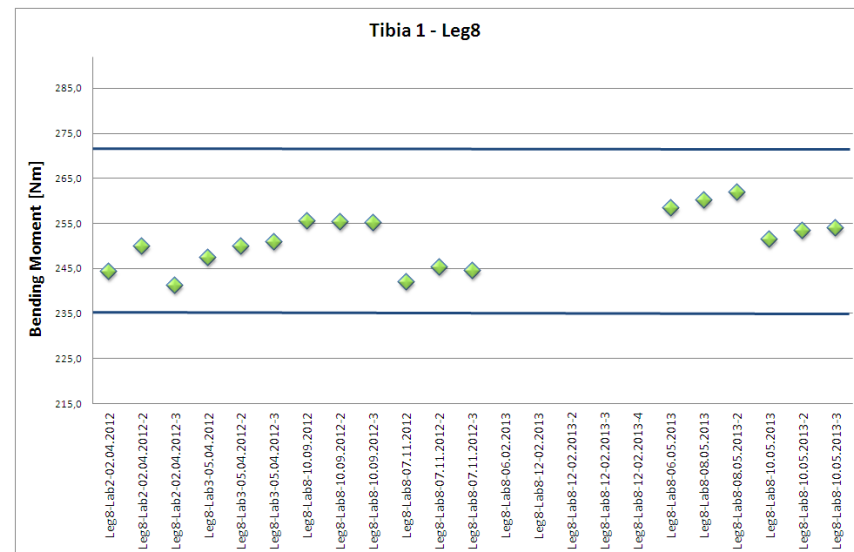
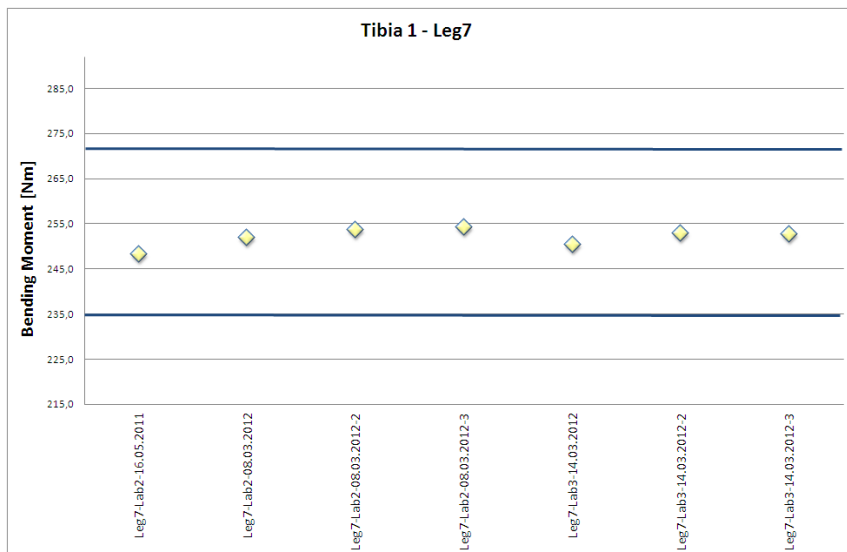
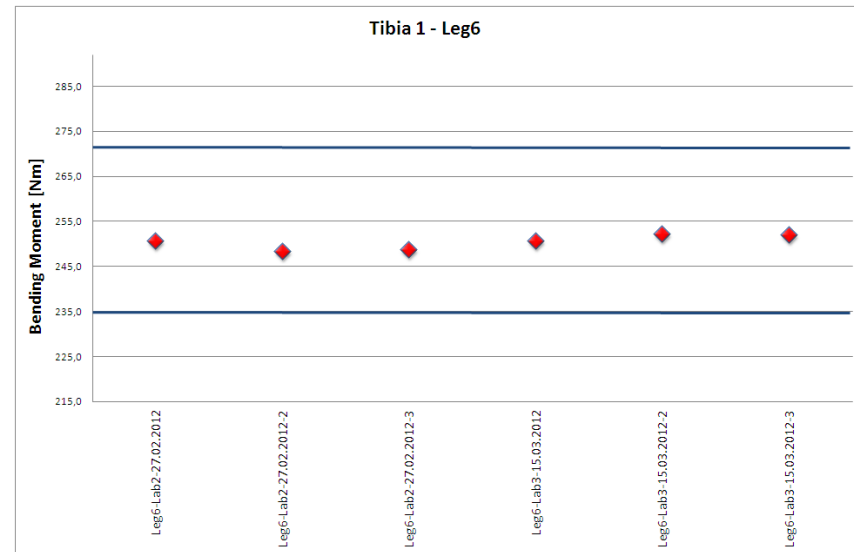
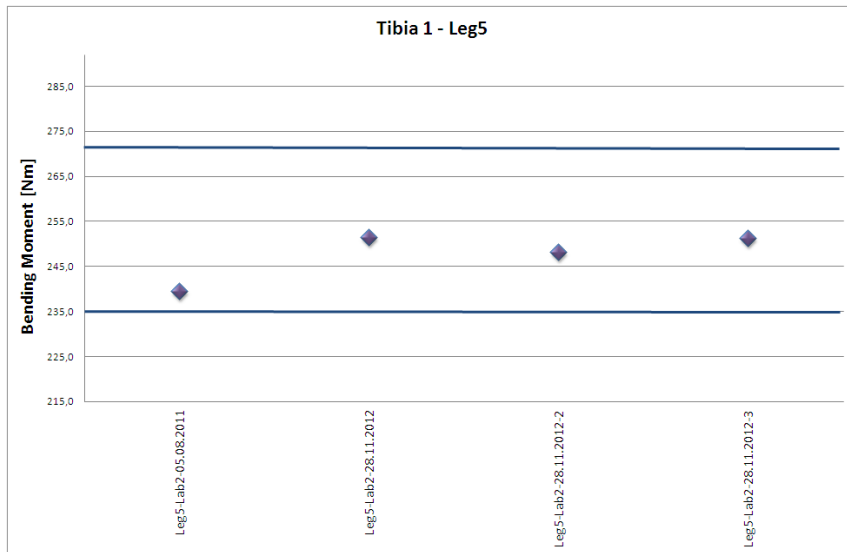
# Results Overview - Pendulum Tests T1



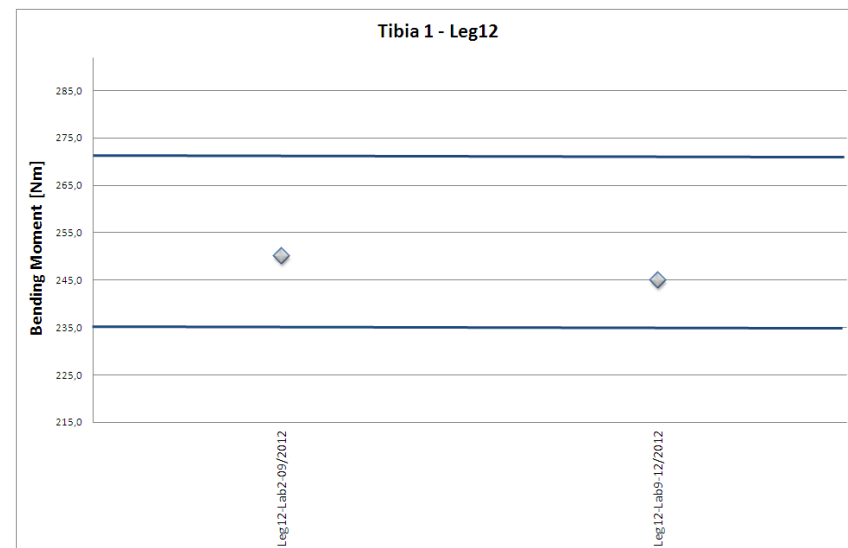
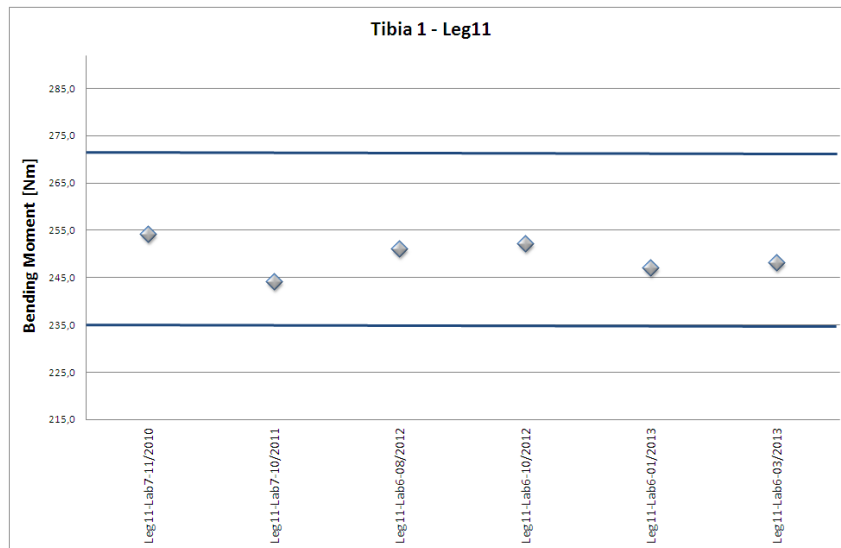
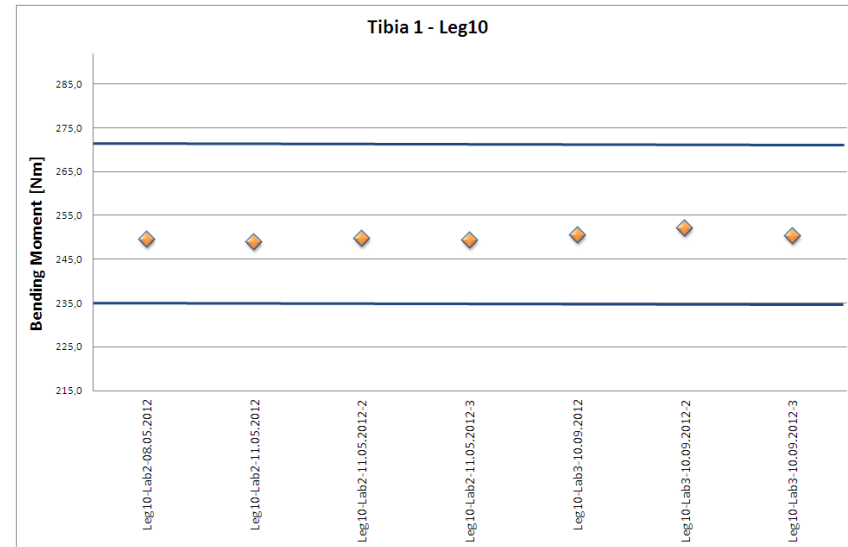
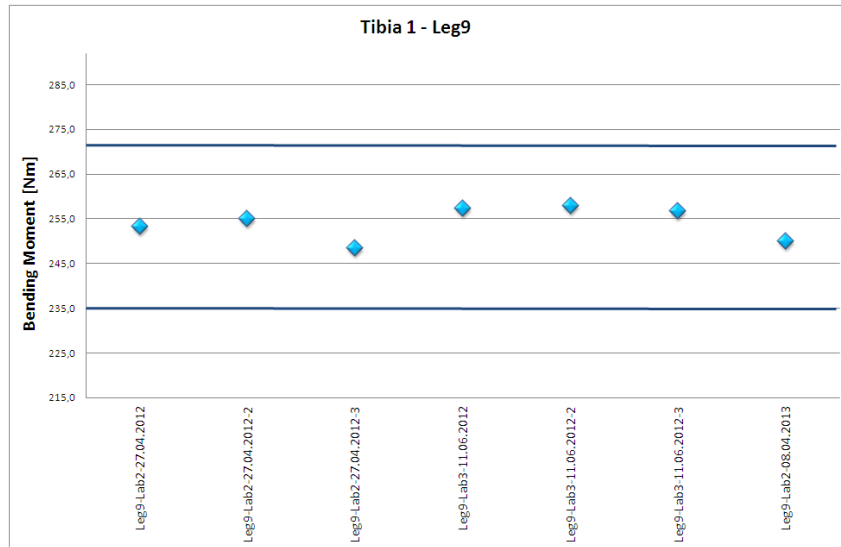
# Results Tibia 1 - Pendulum Tests



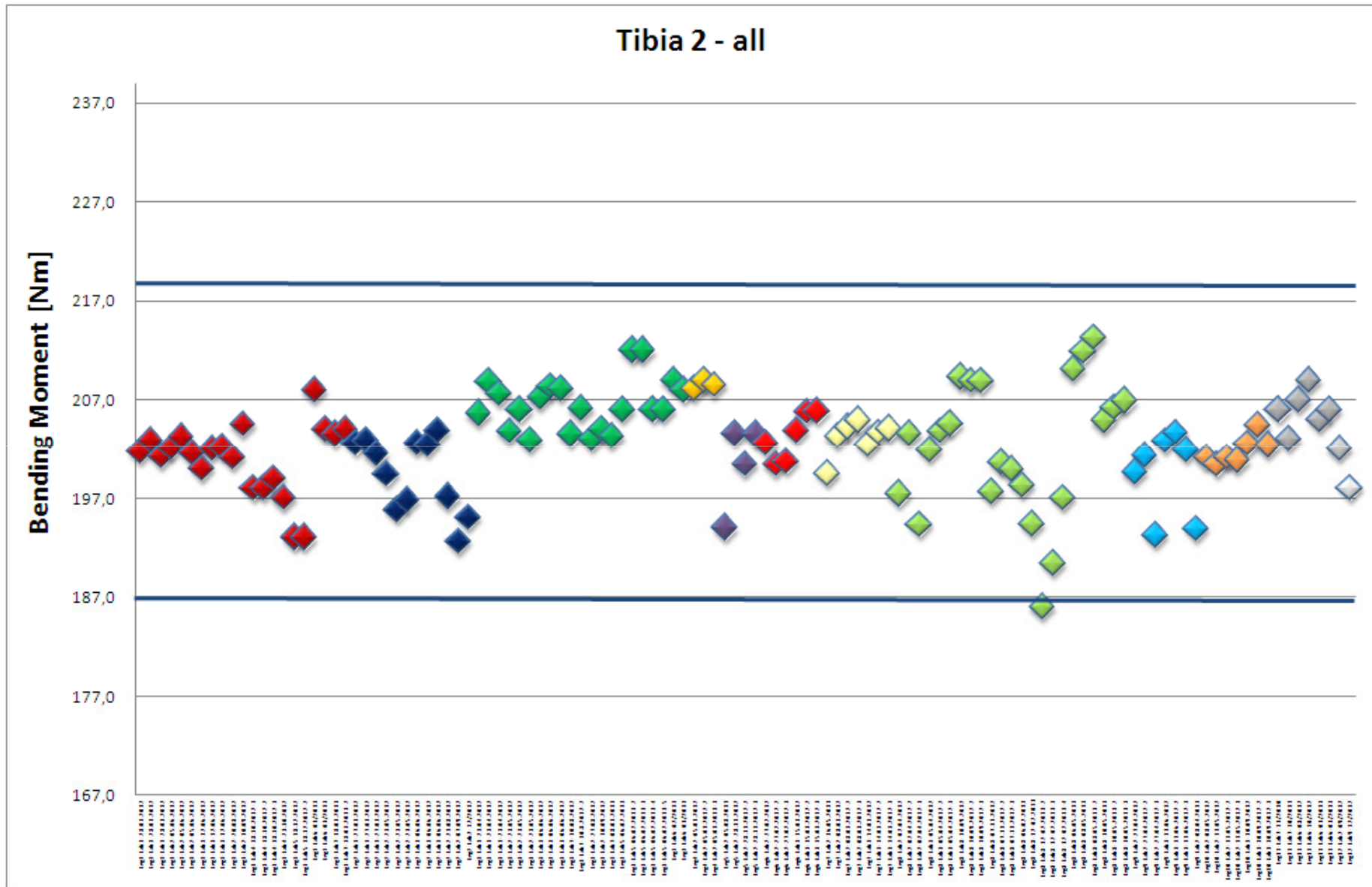
# Results Tibia 1 - Pendulum Tests



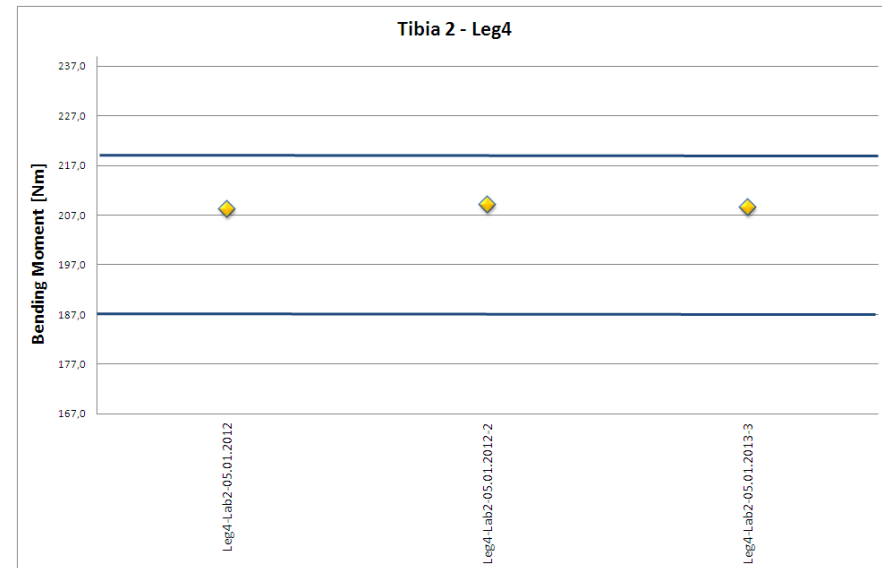
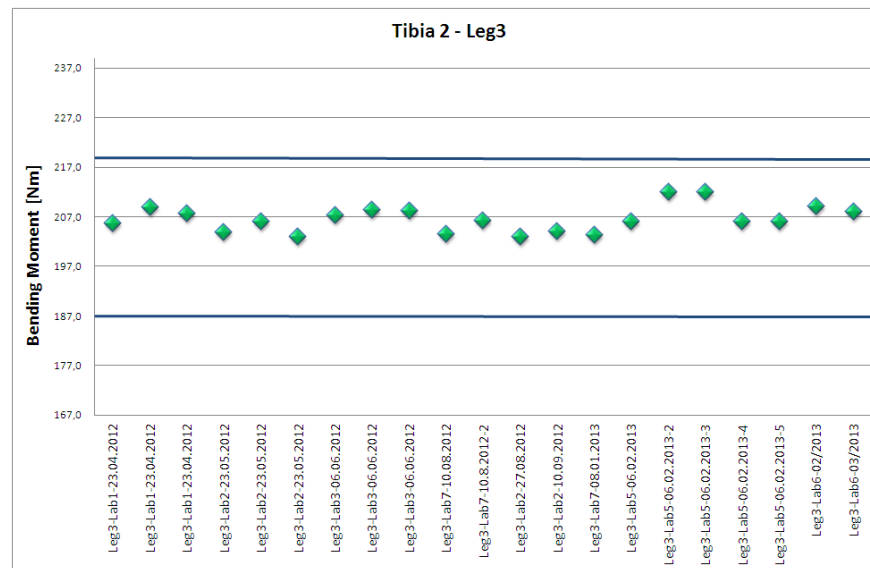
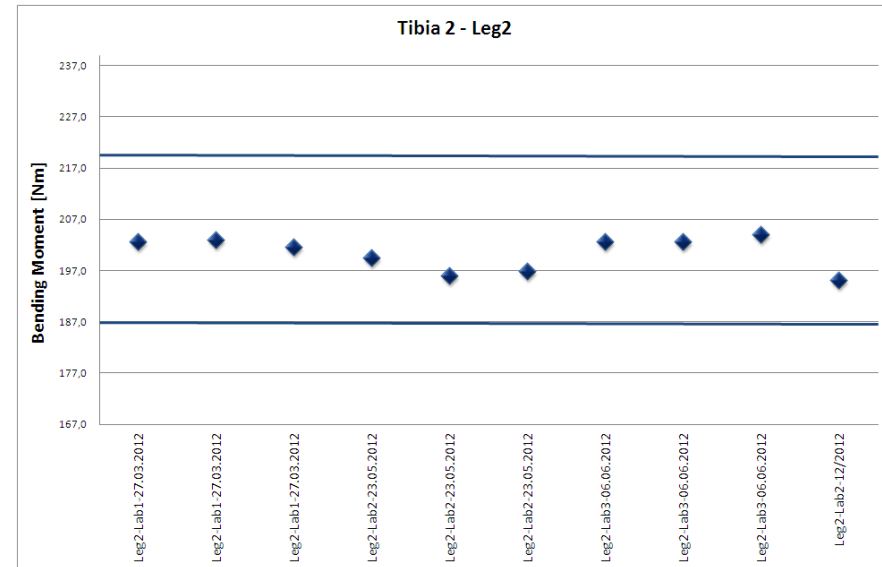
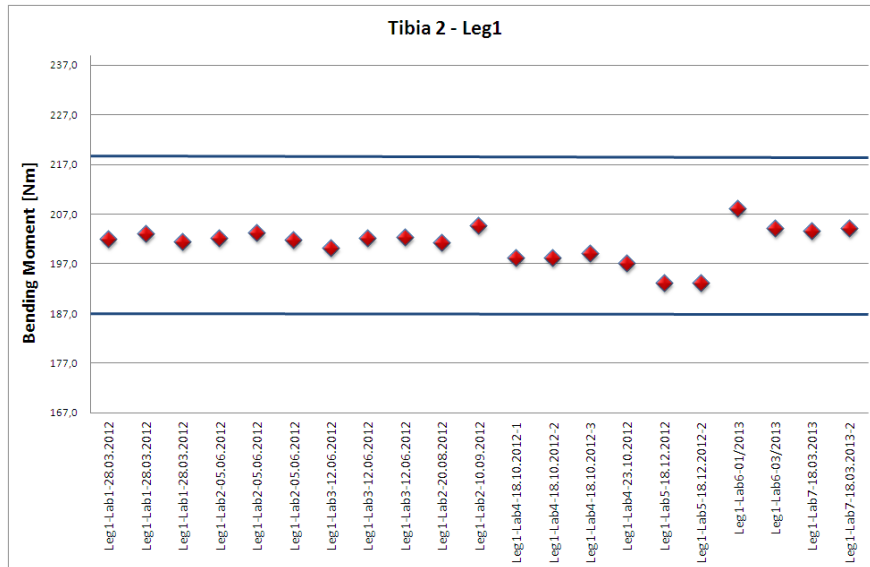
# Results Tibia 1 - Pendulum Tests



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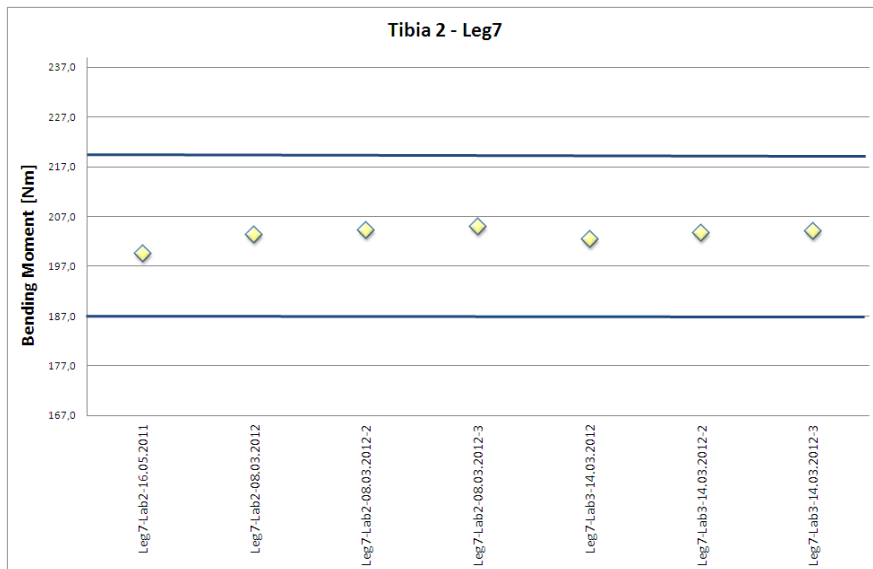
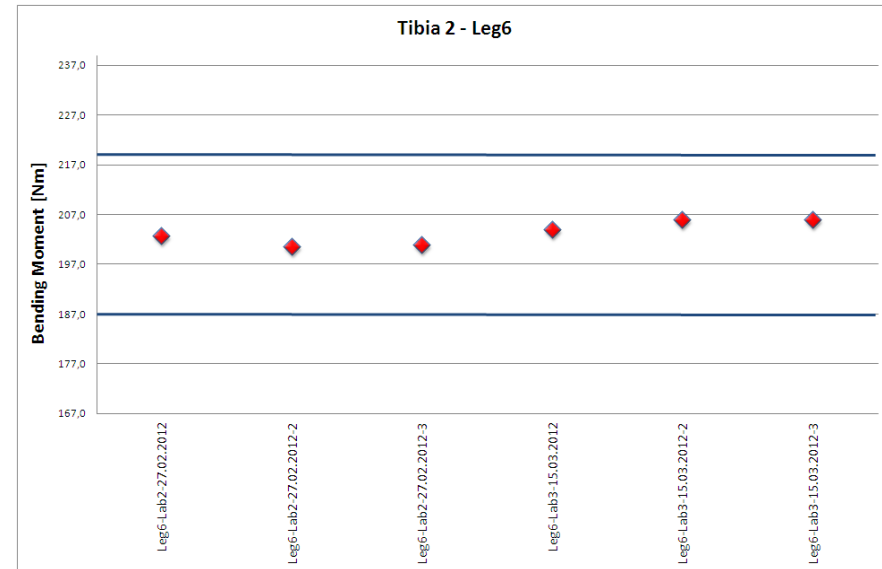
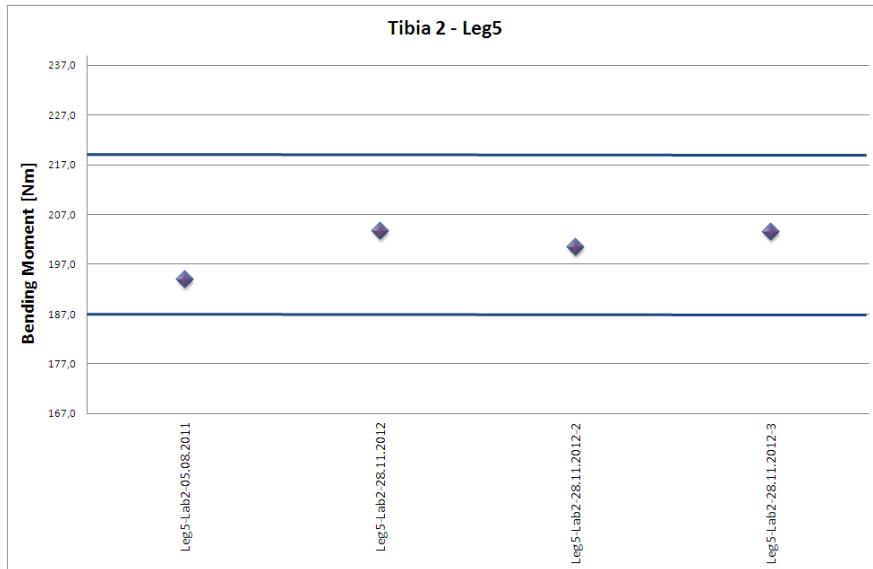


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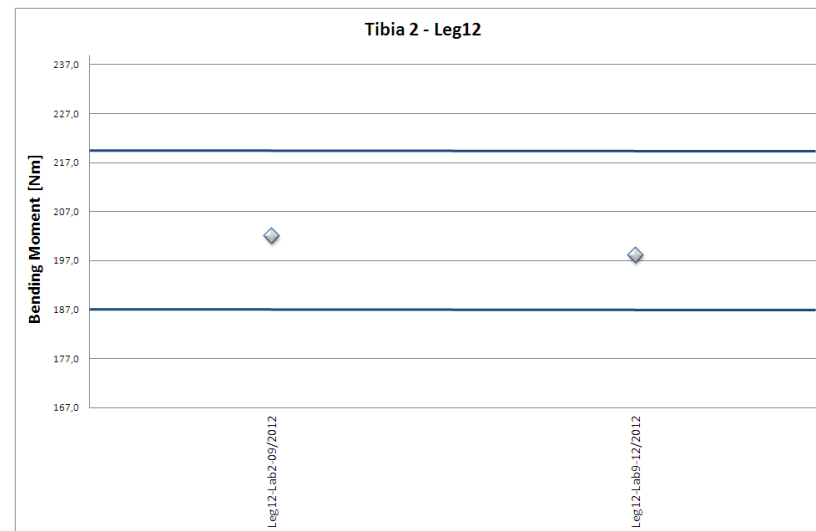
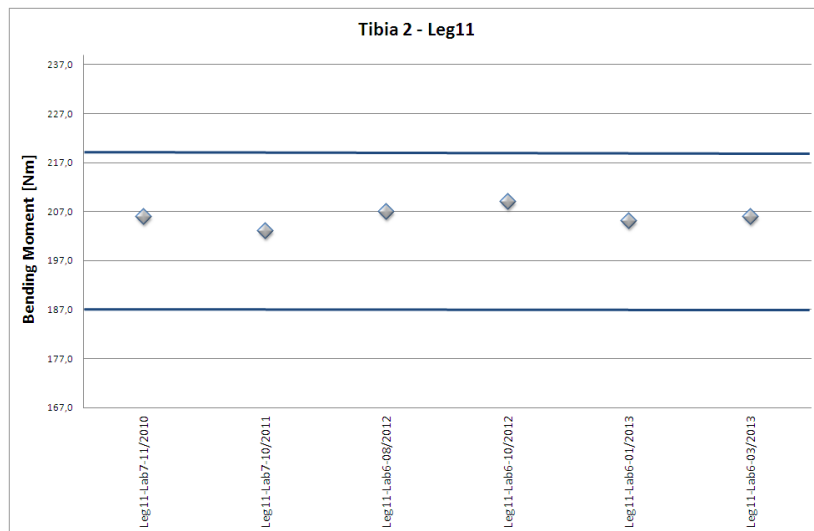
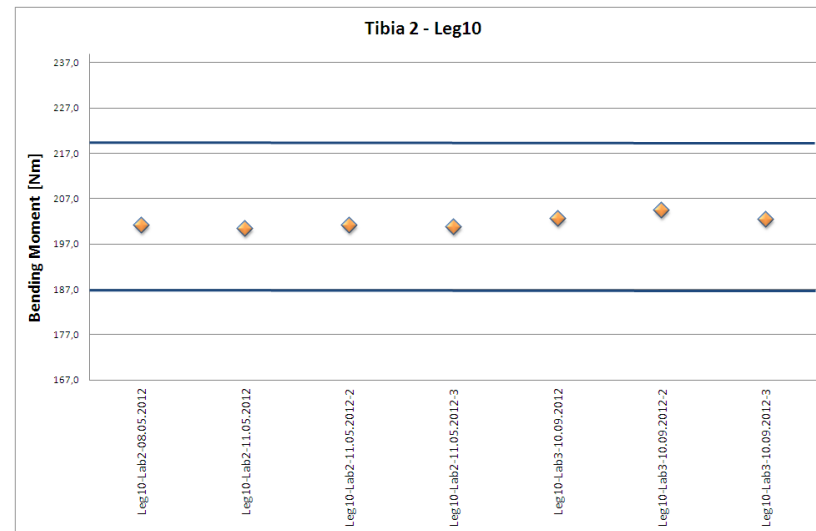
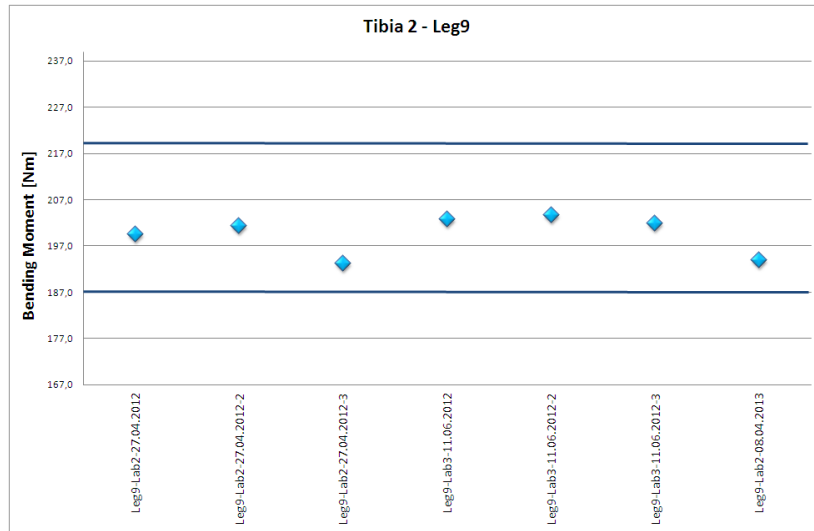




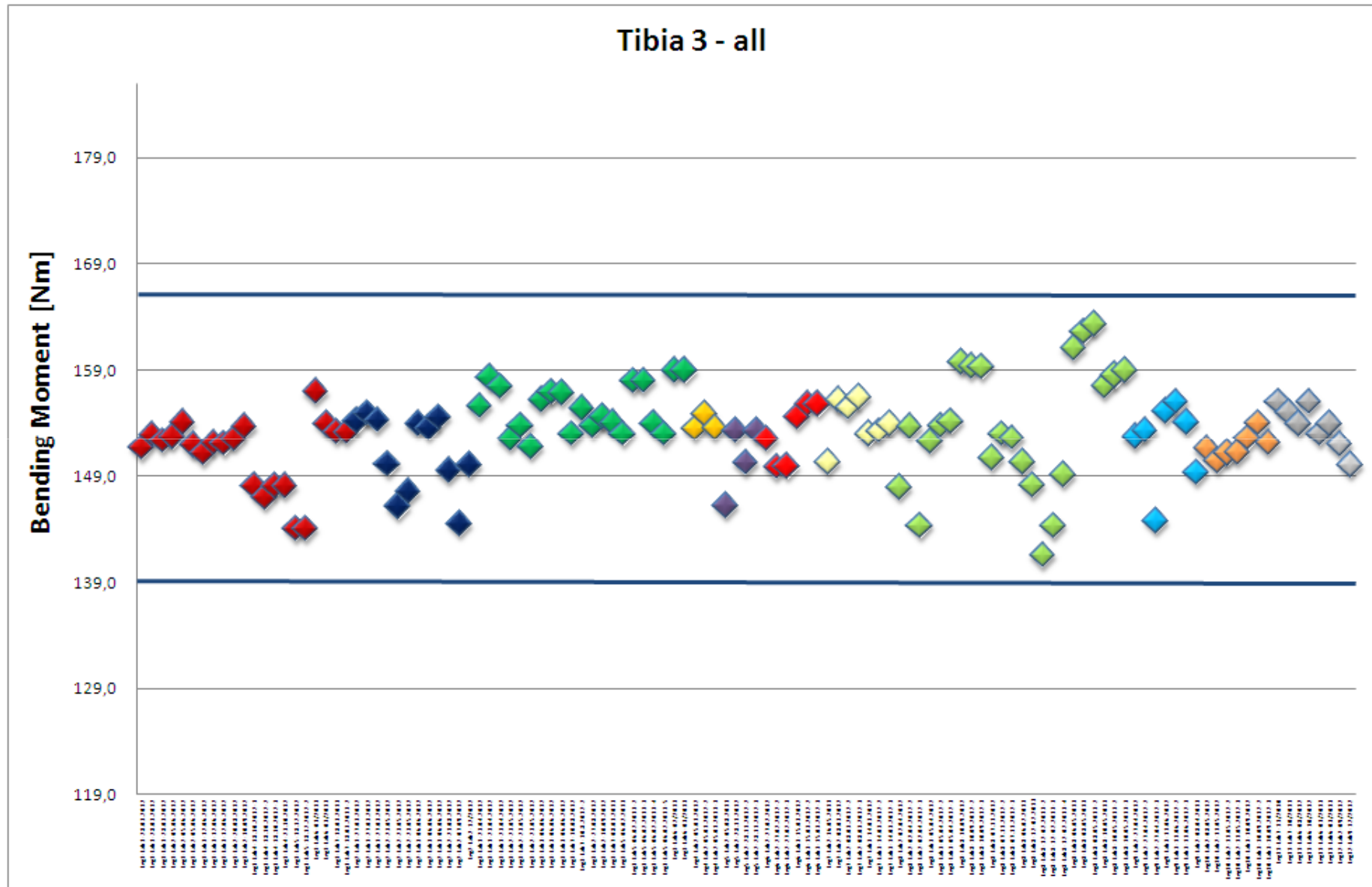
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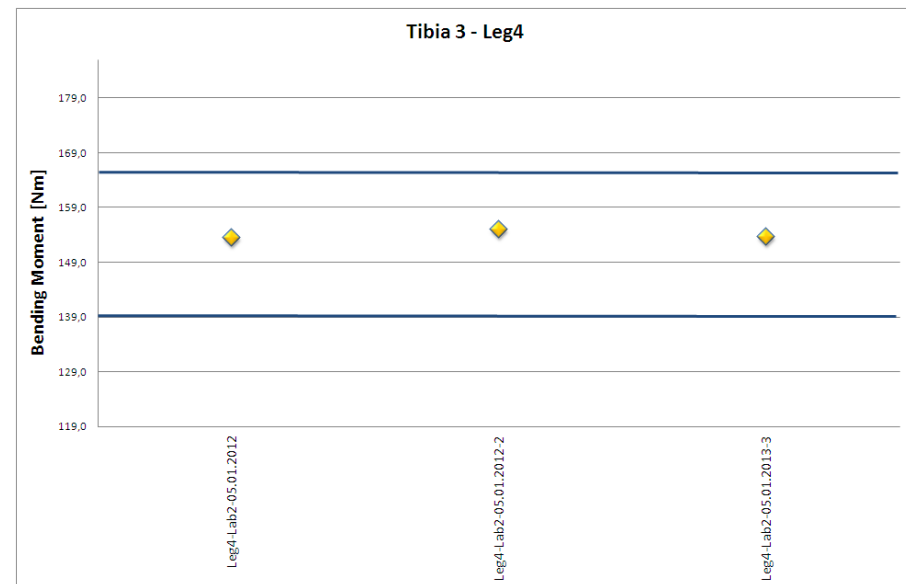
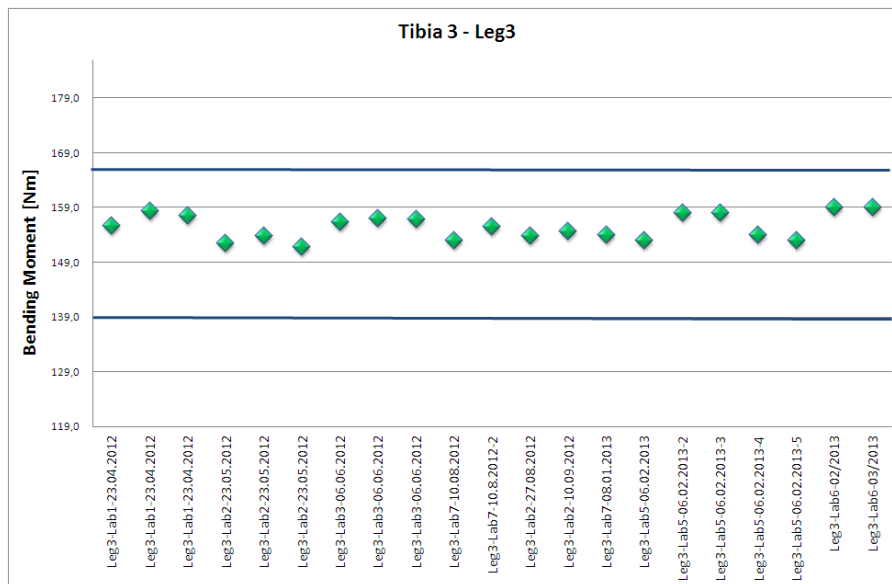
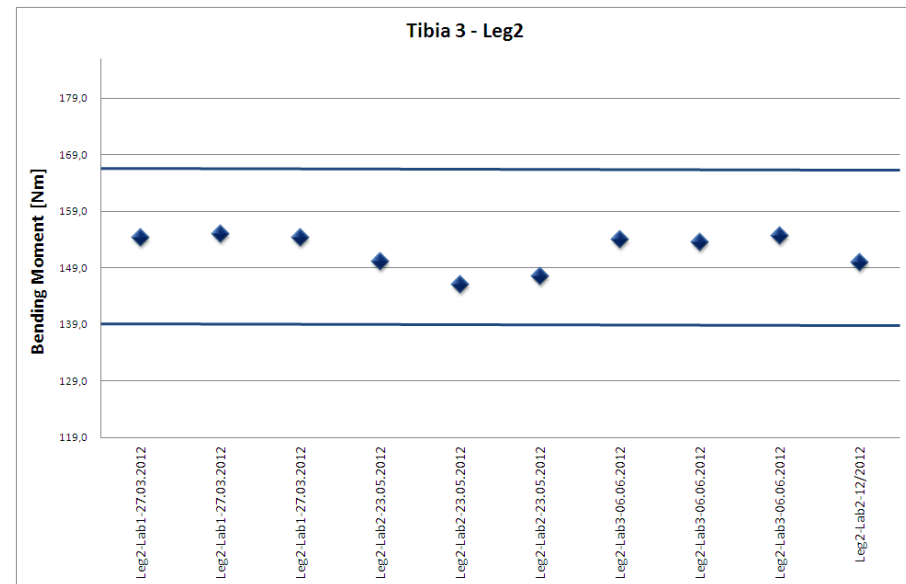
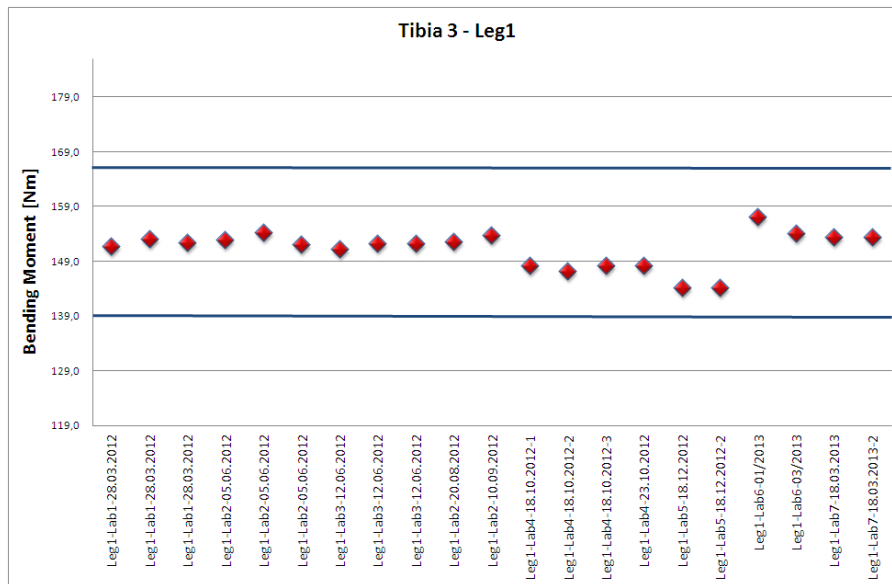
# Results Tibia 2 - Pendulum Tests



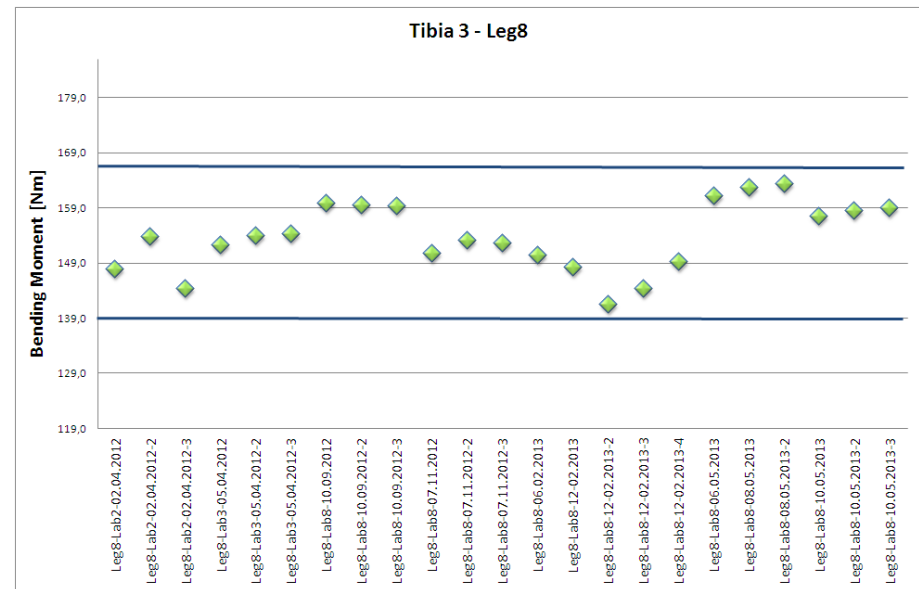
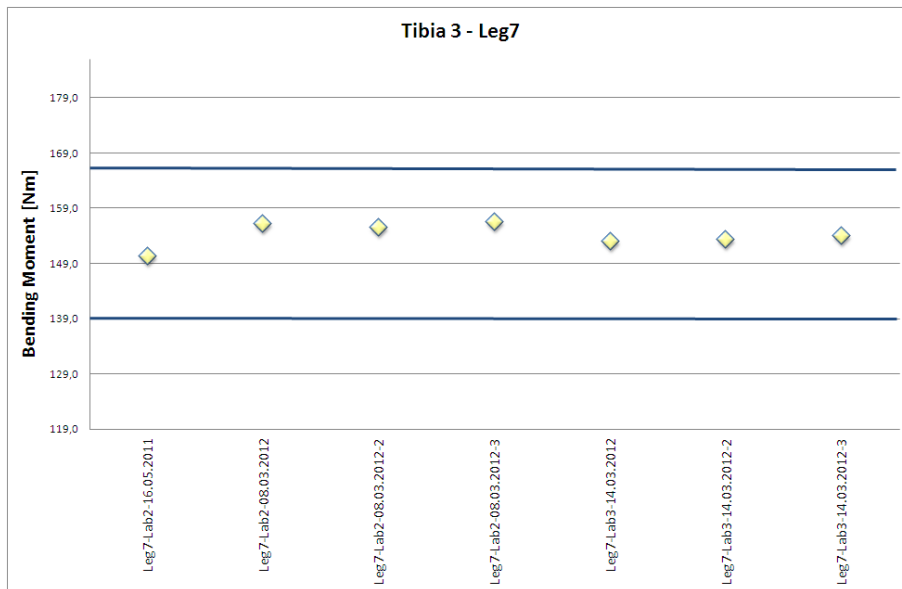
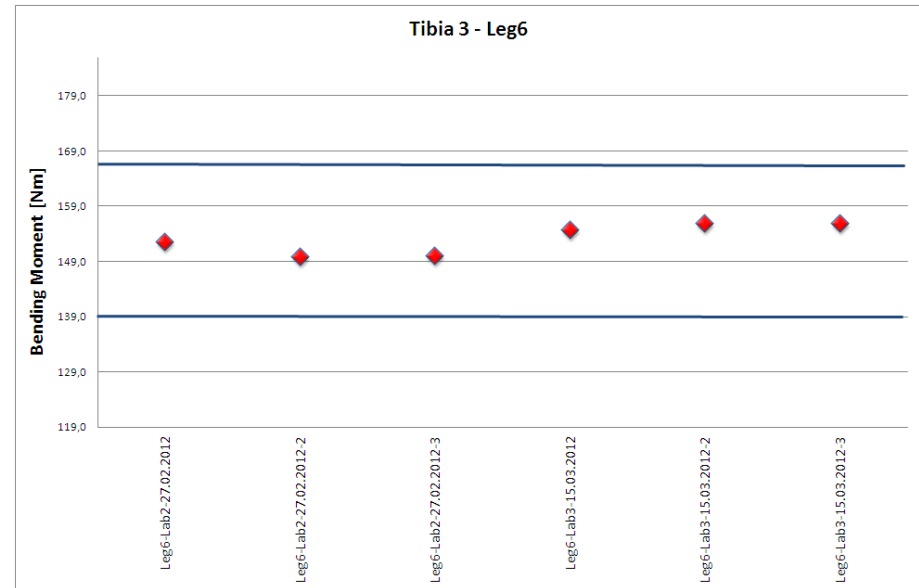
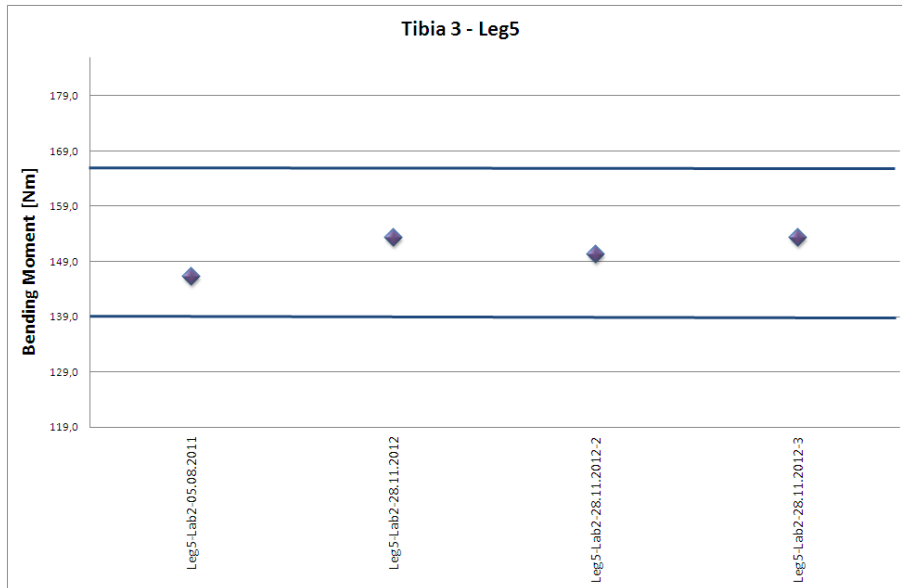
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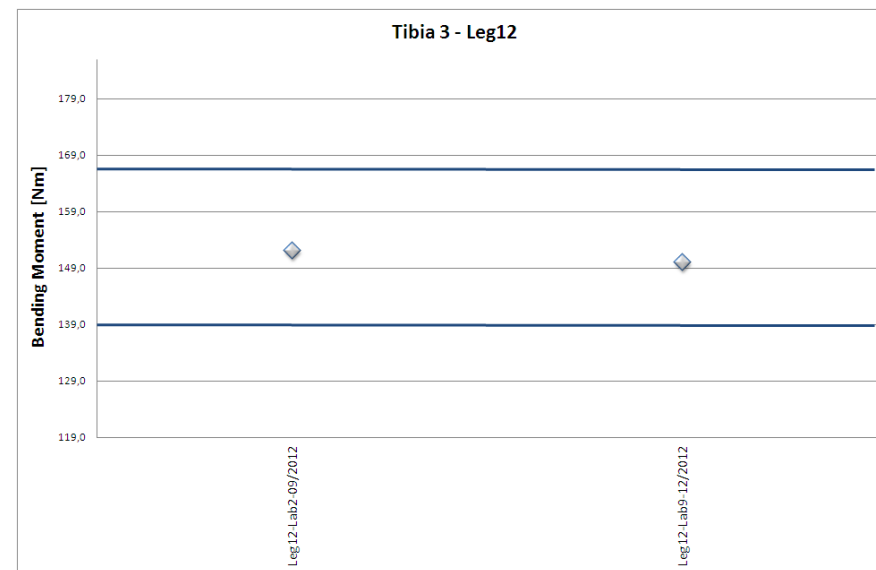
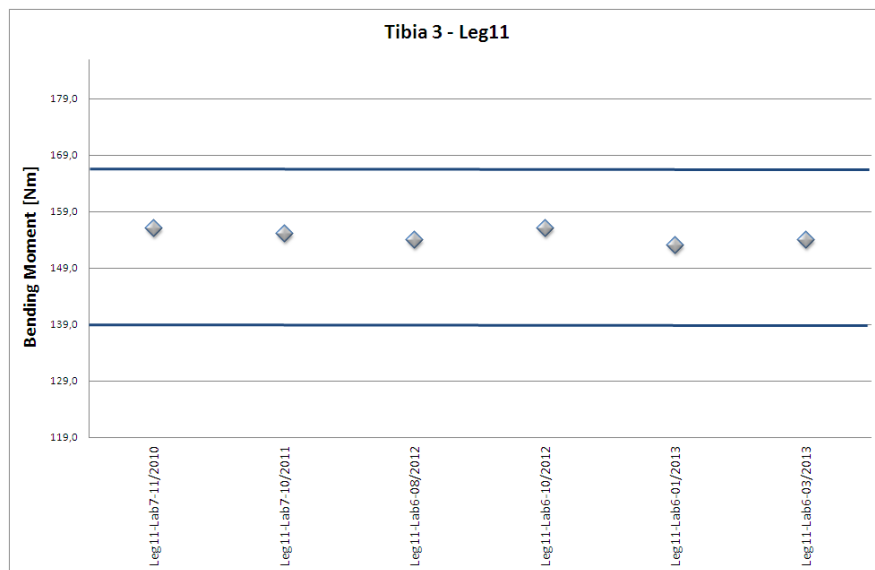
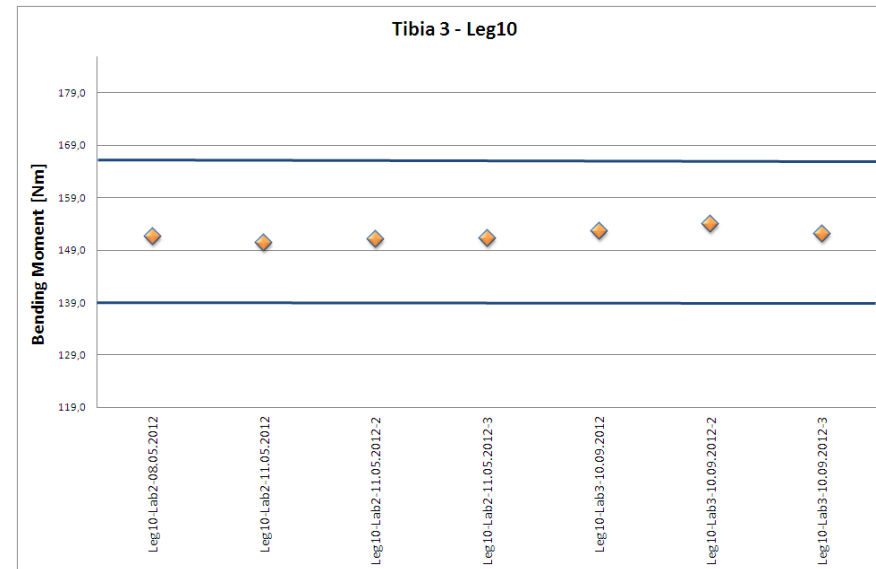
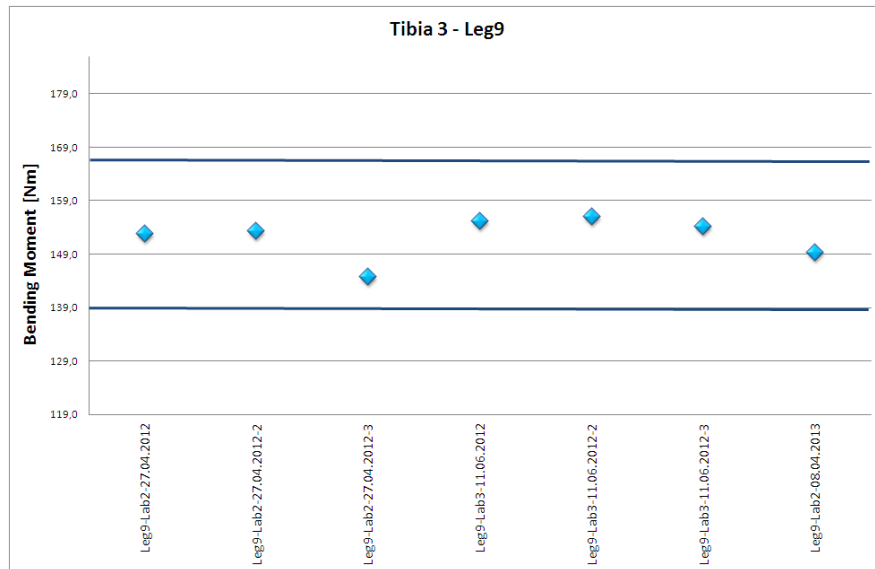
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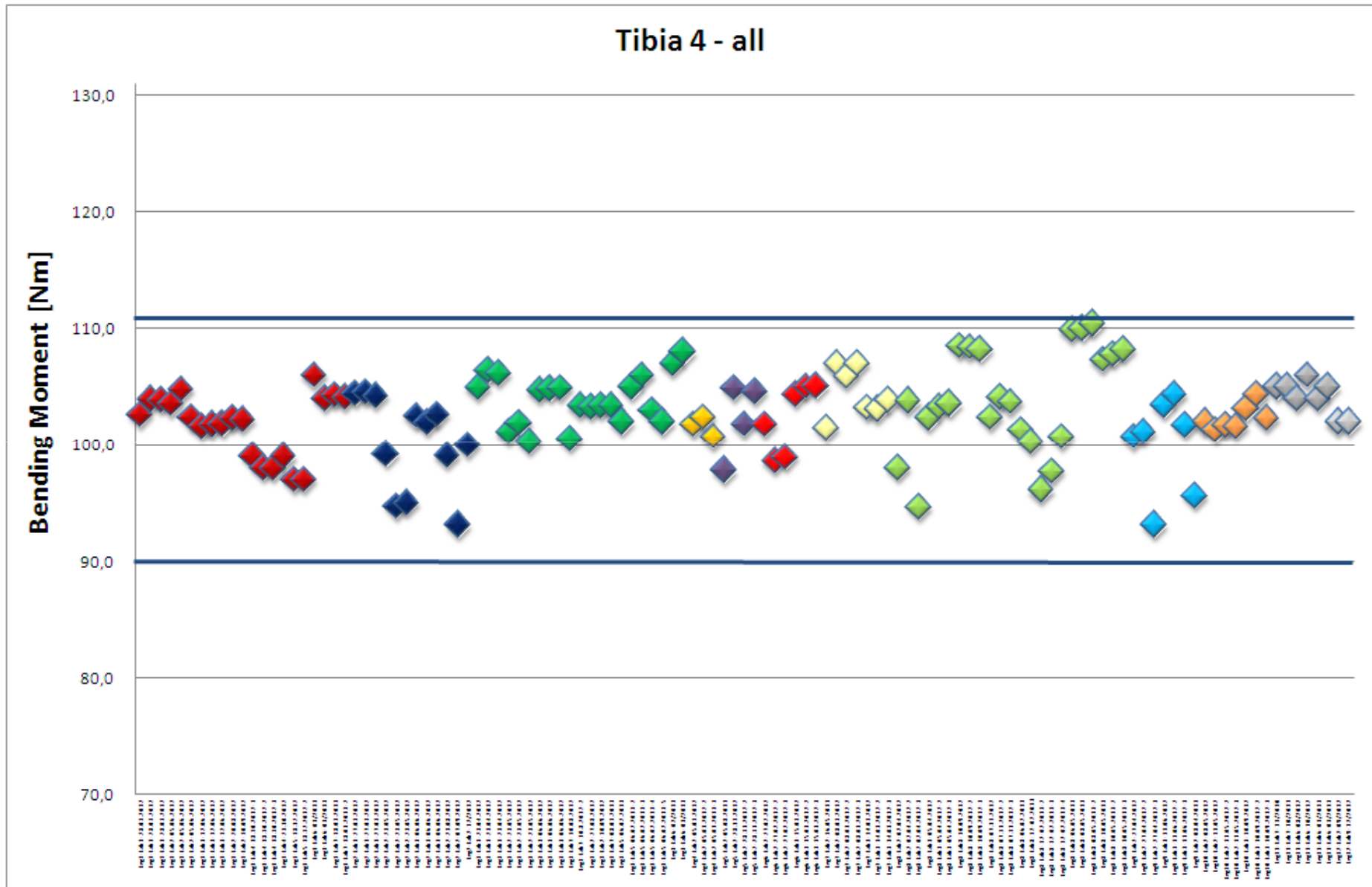
# Results Tibia 3 - Pendulum Tests



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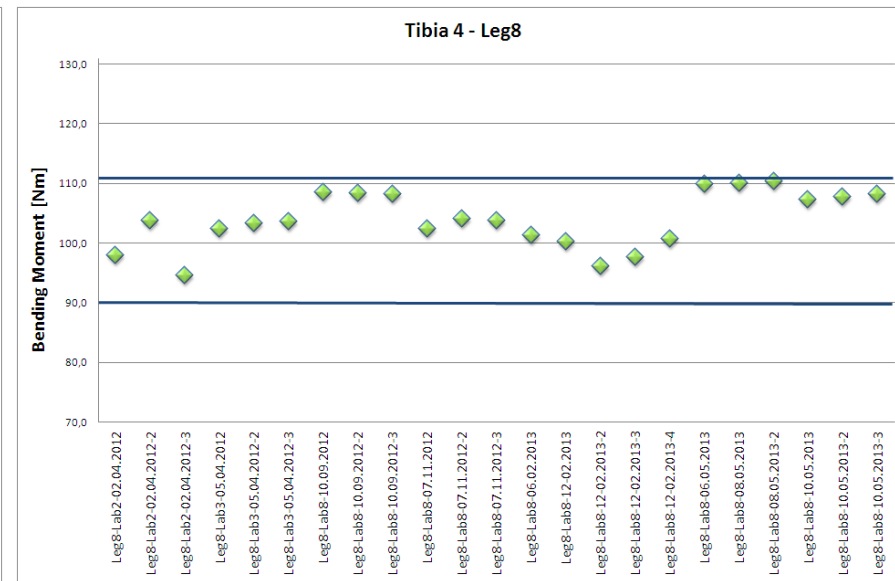
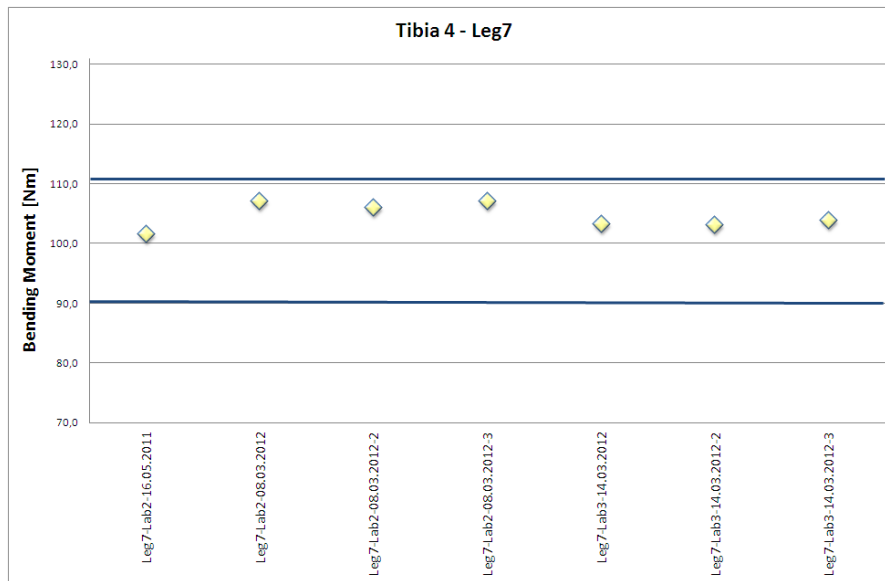
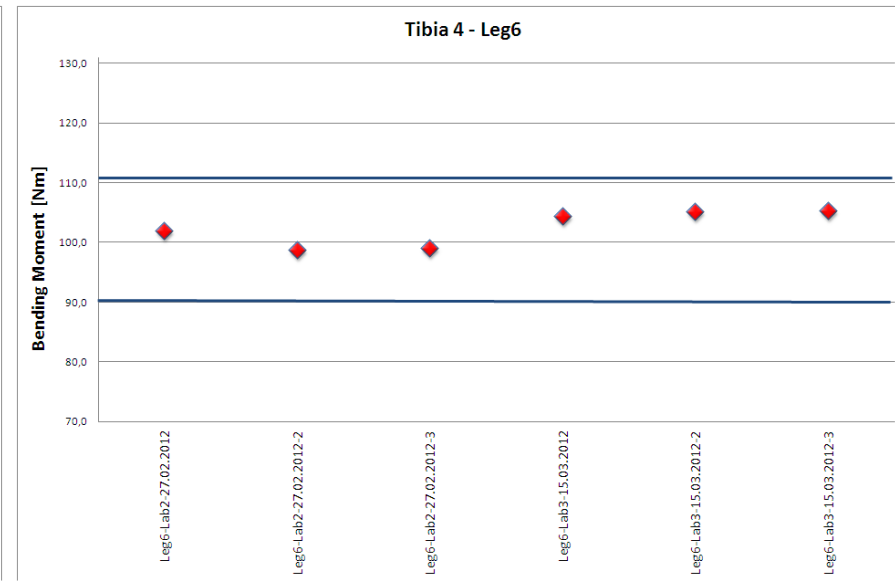
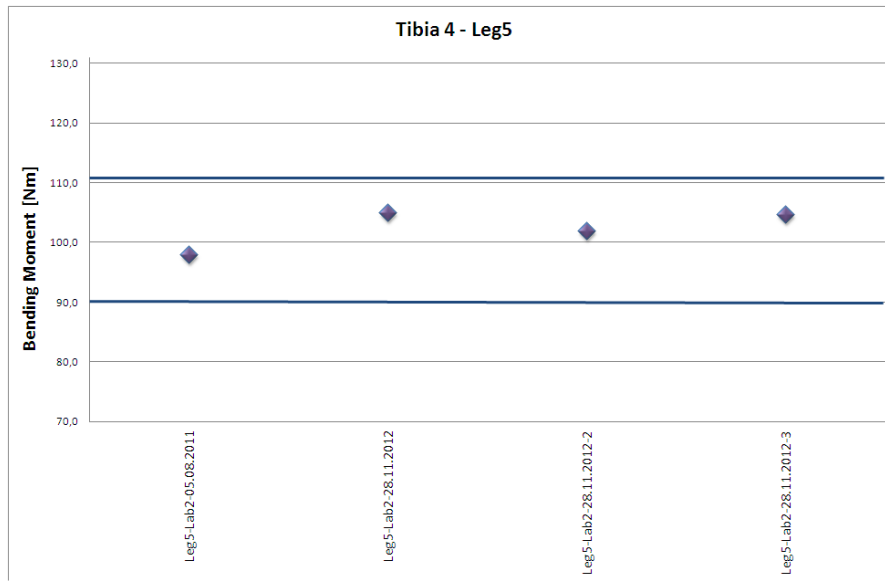
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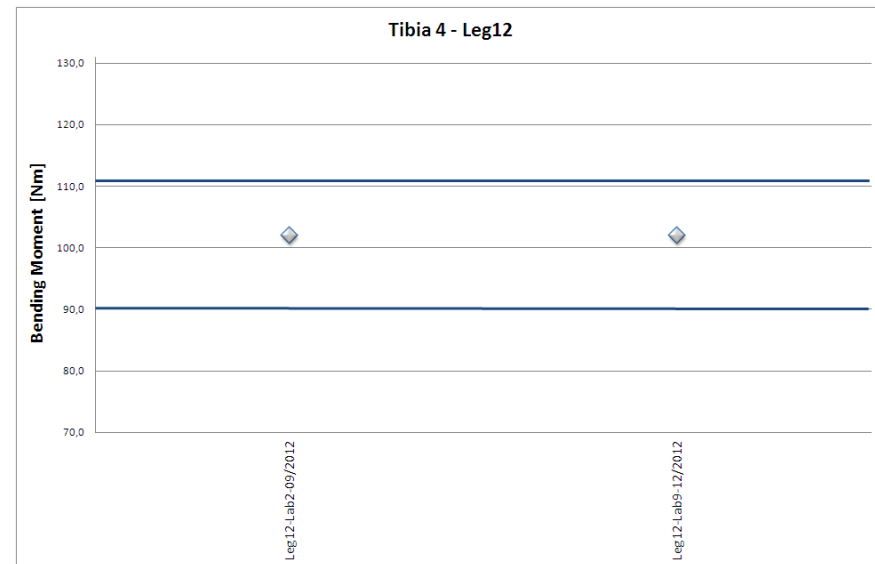
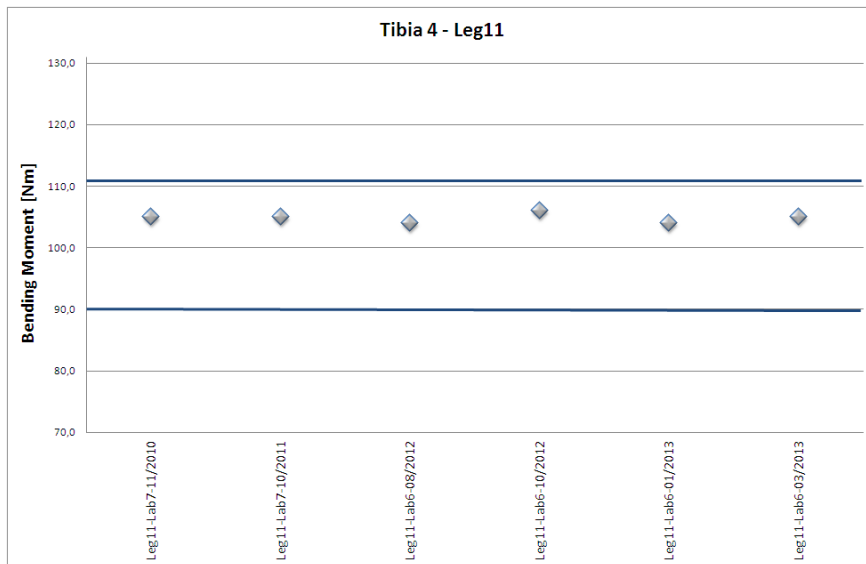
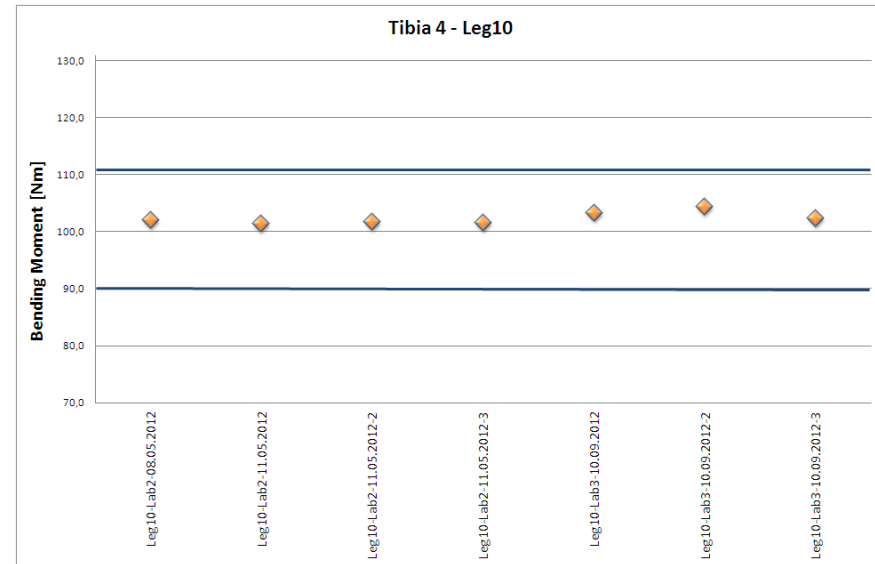
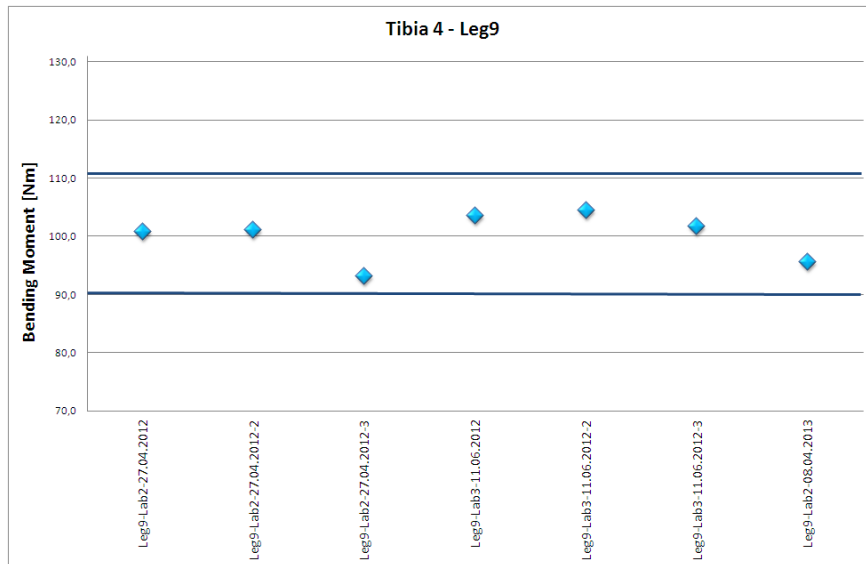




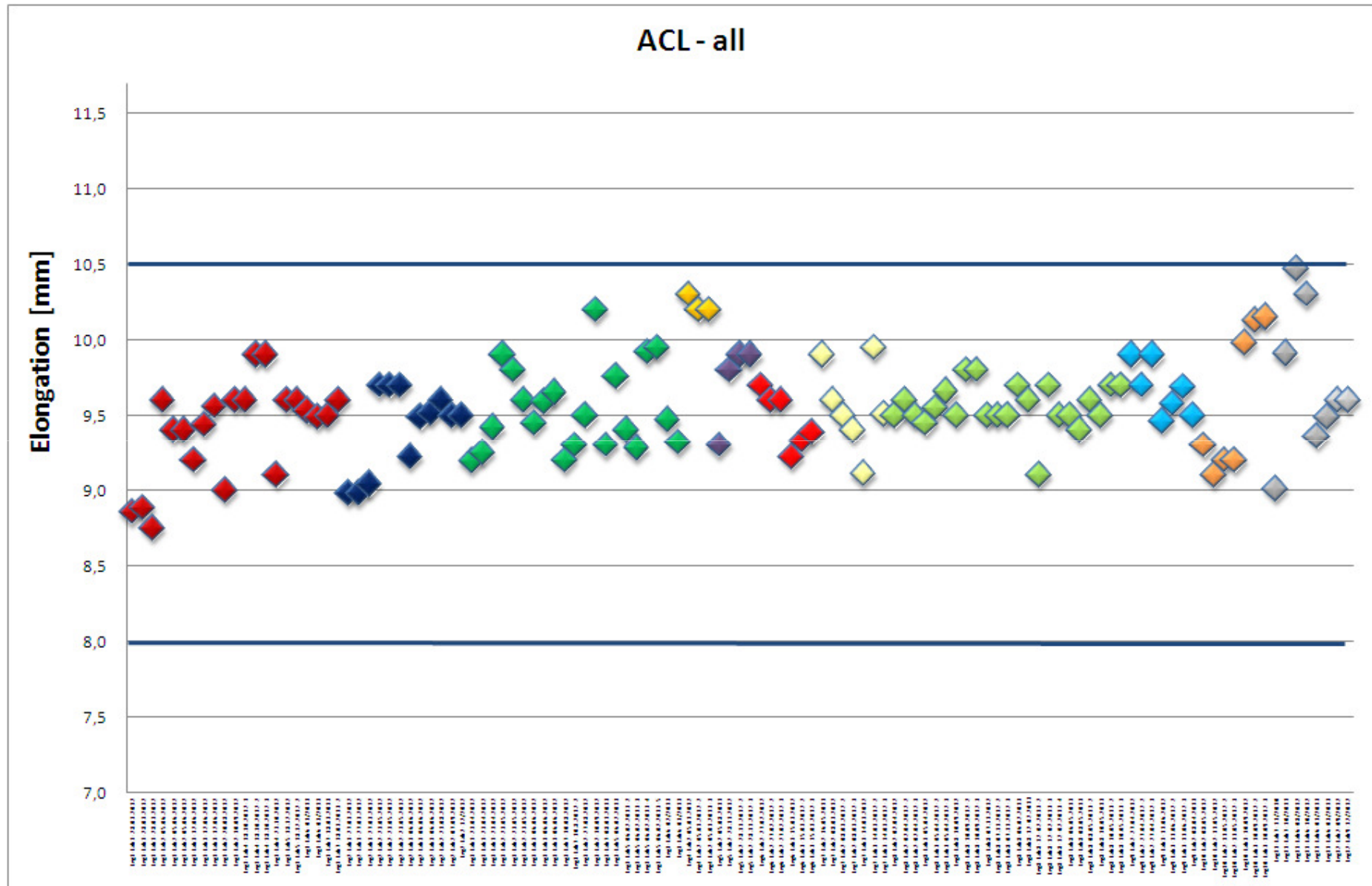
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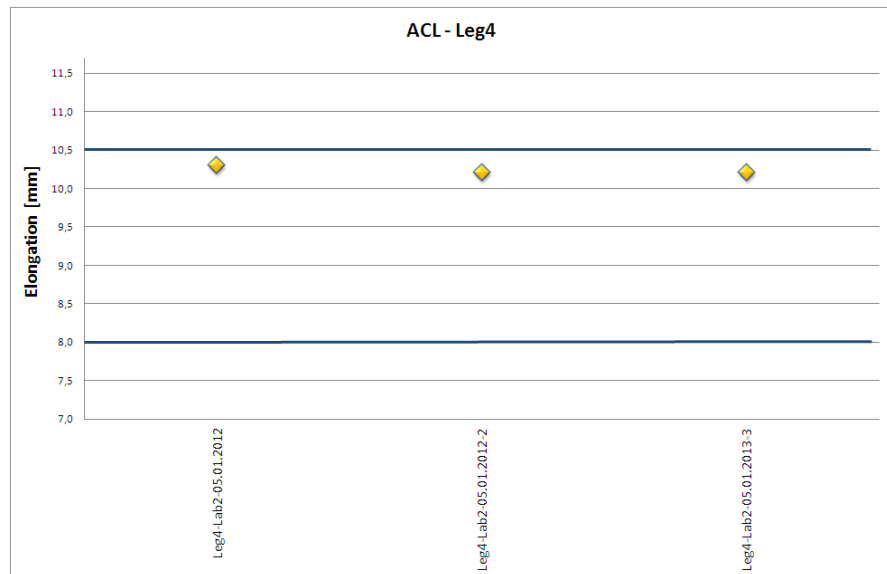
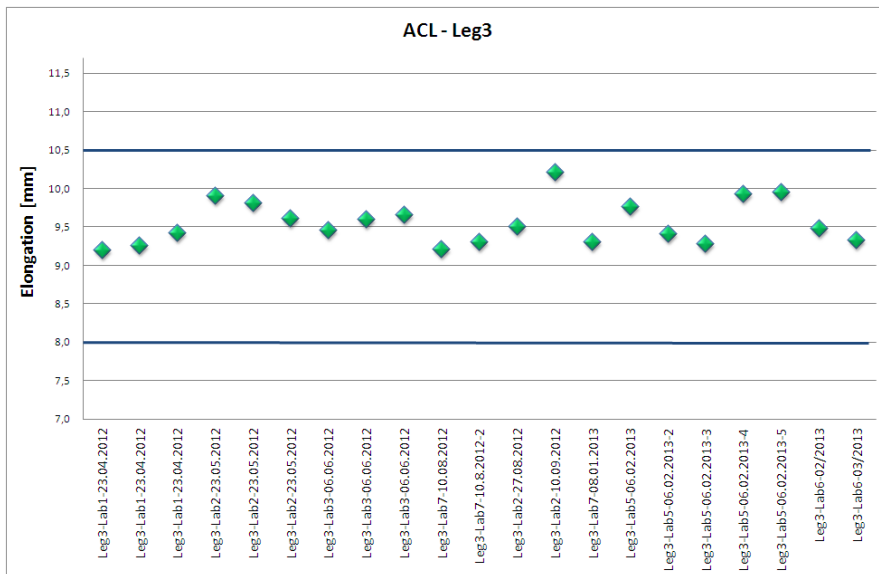
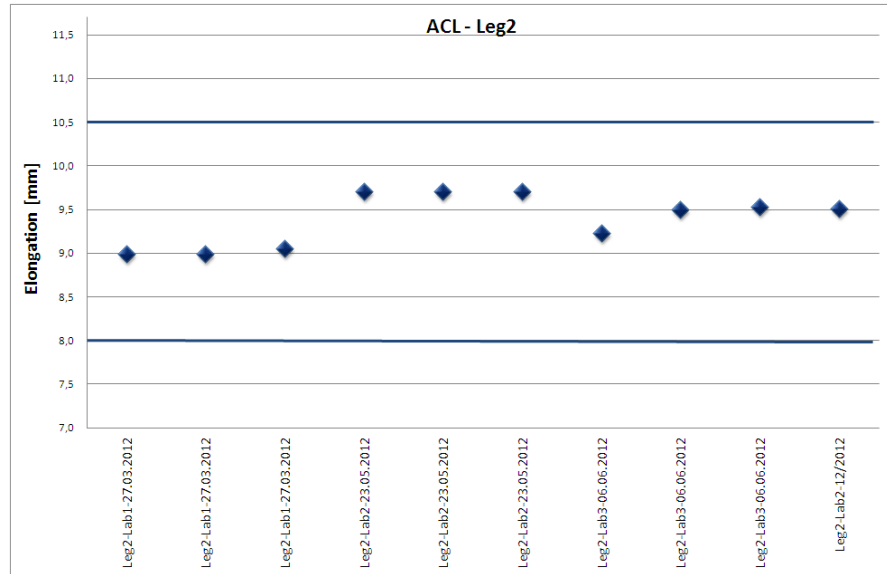
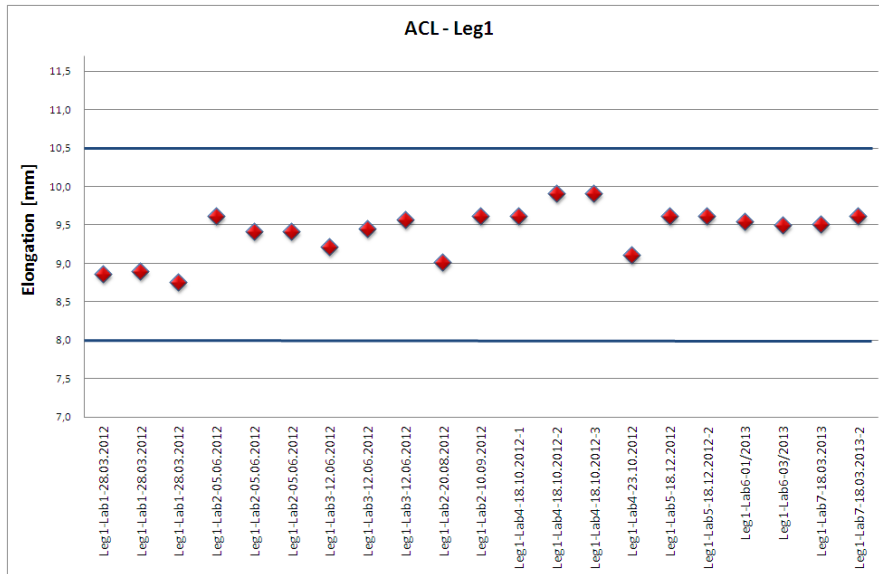
# Results Tibia 4 - Pendulum Tests



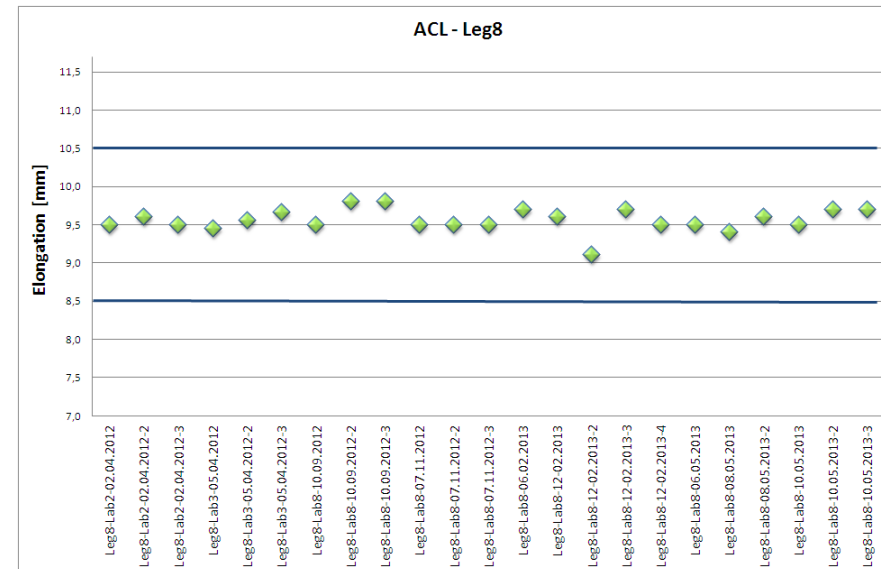
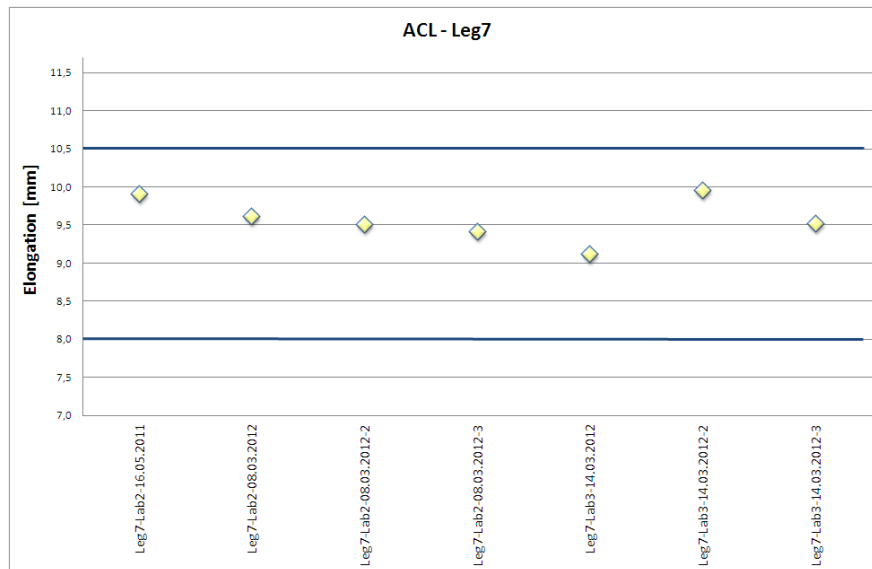
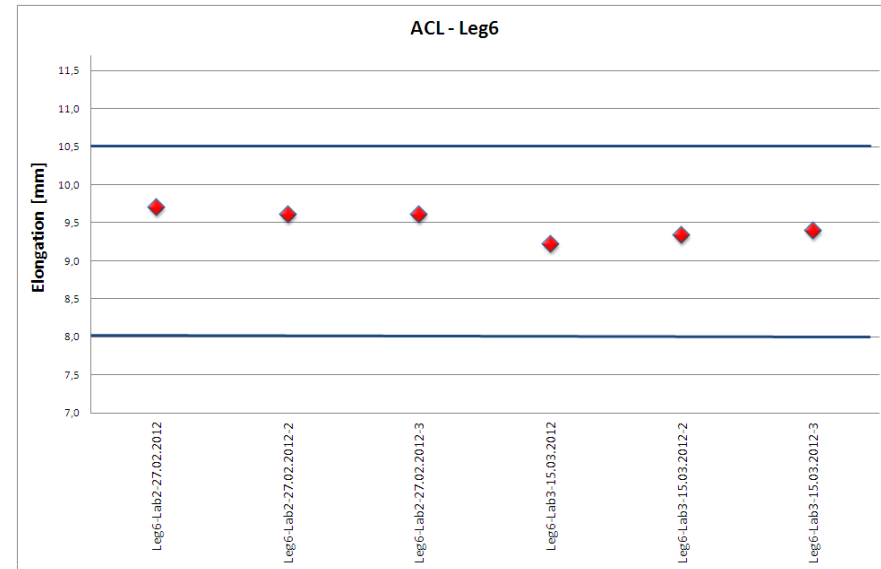
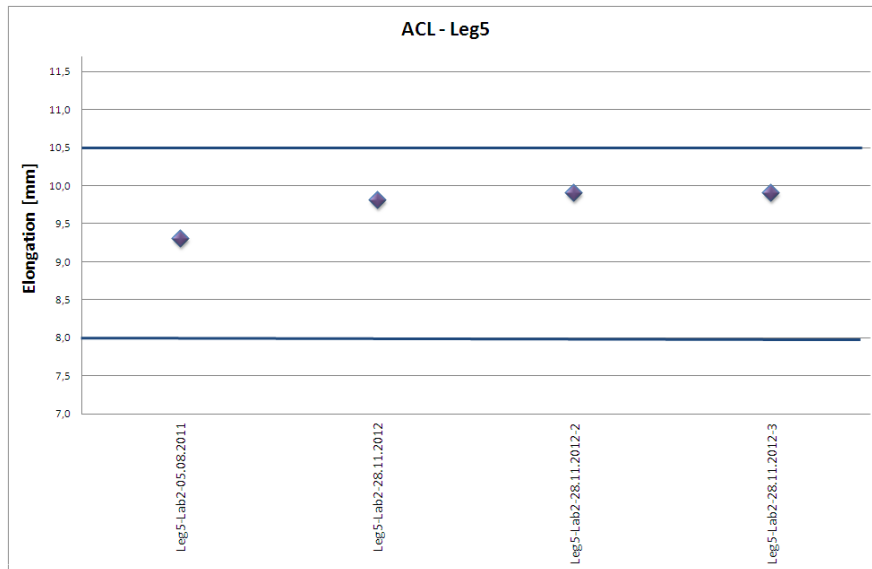
# Results Overview - Pendulum Tests ACL



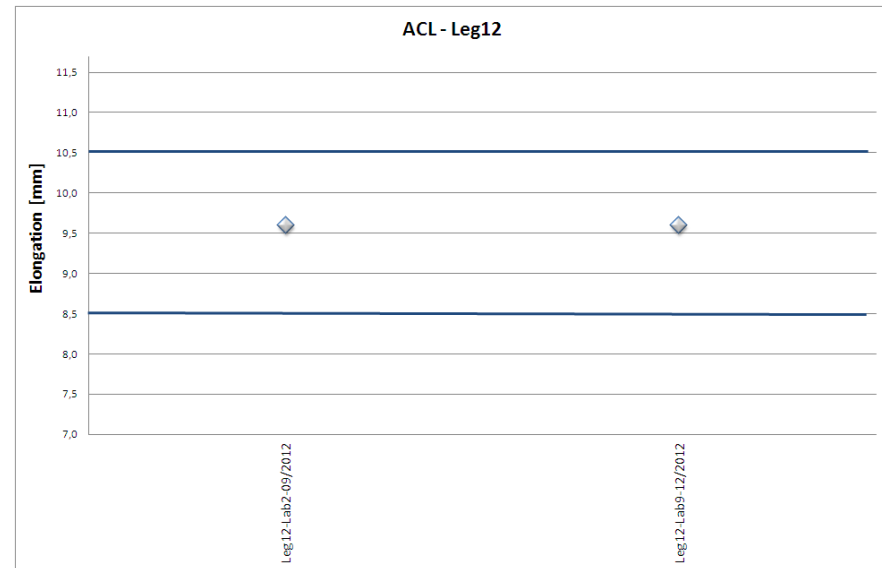
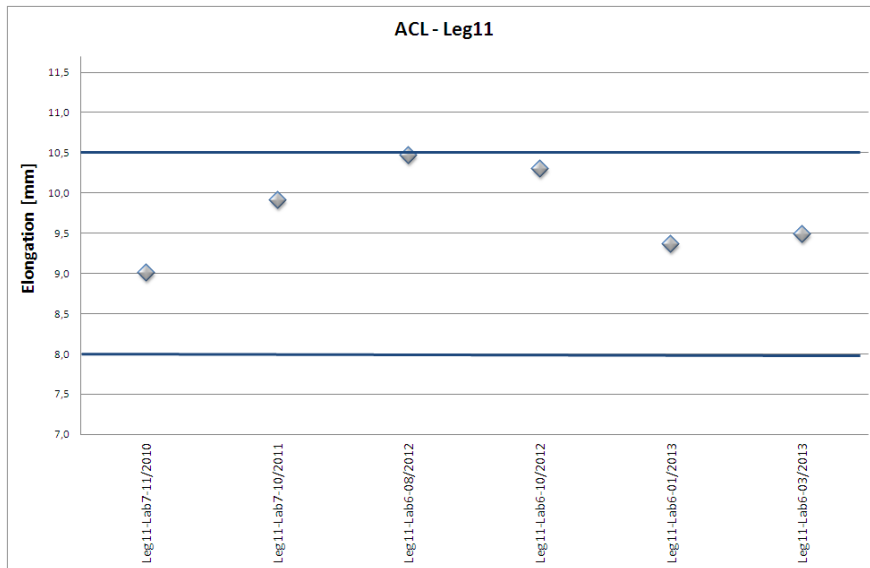
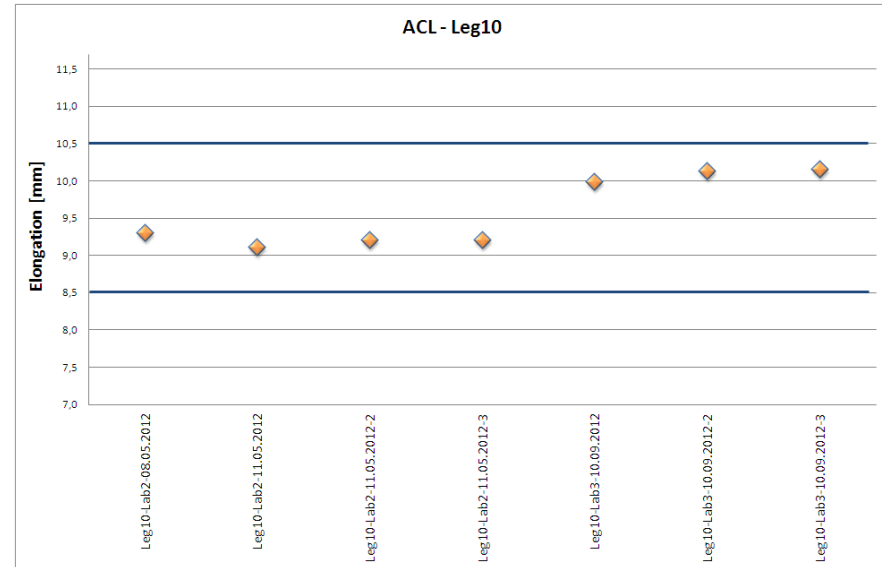
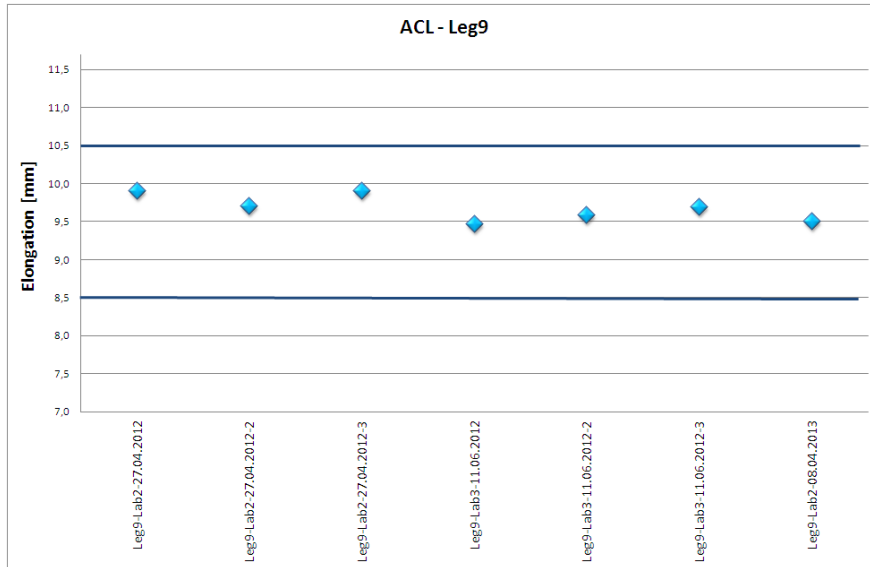
# Results ACL - Pendulum Tests



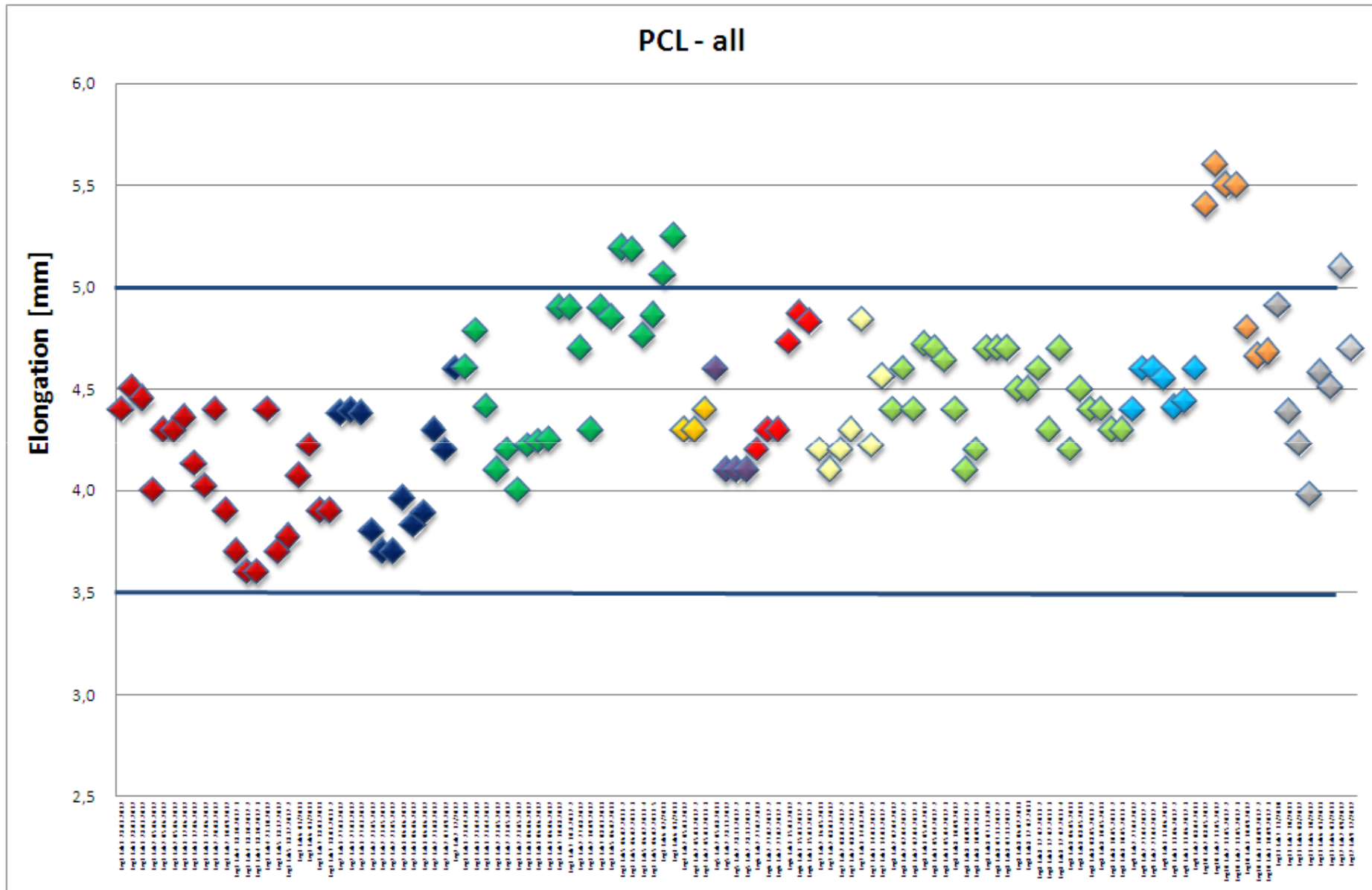
# Results ACL - Pendulum Tests



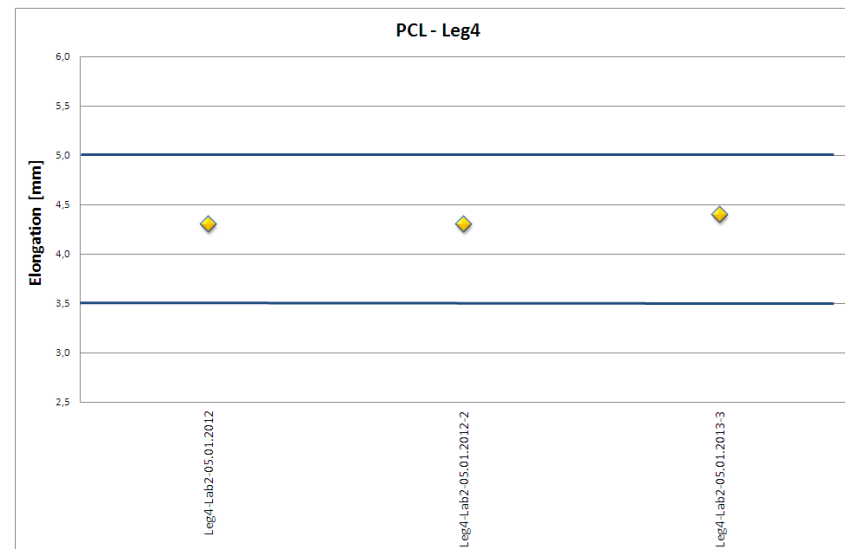
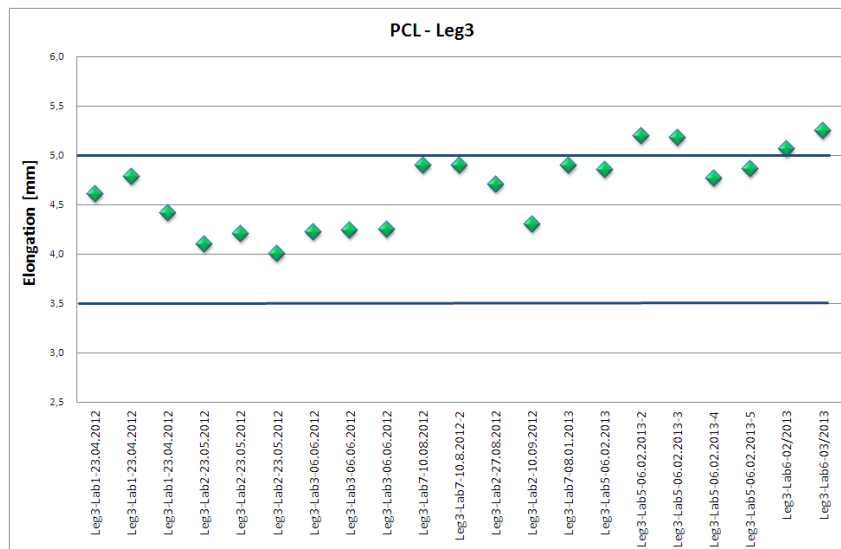
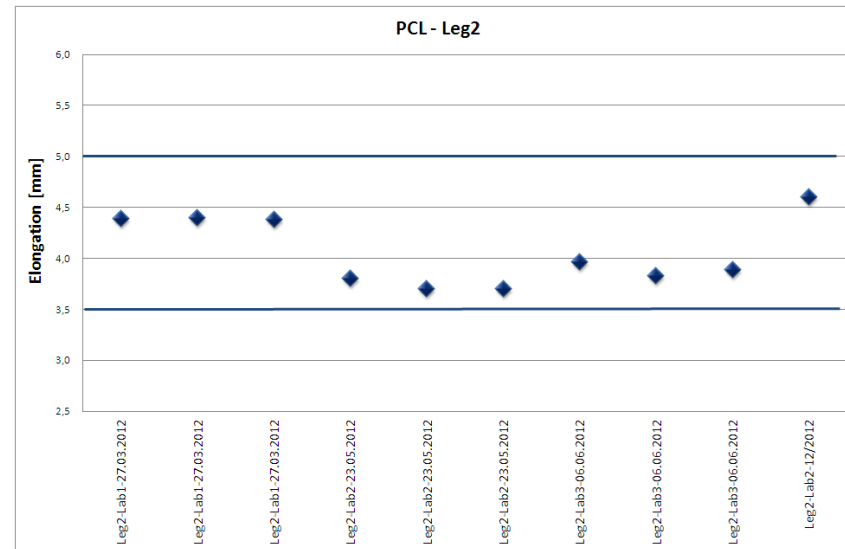
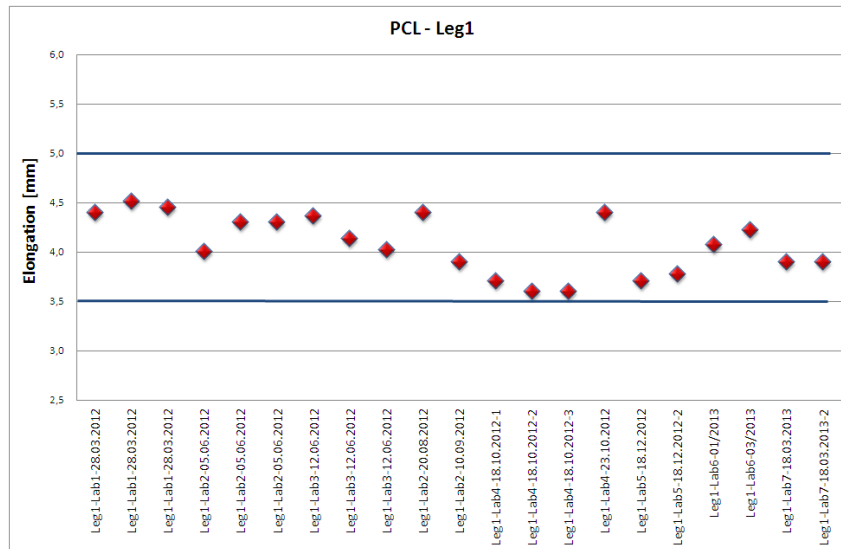
# Results ACL - Pendulum Tests



# Results Overview - Pendulum Tests PCL

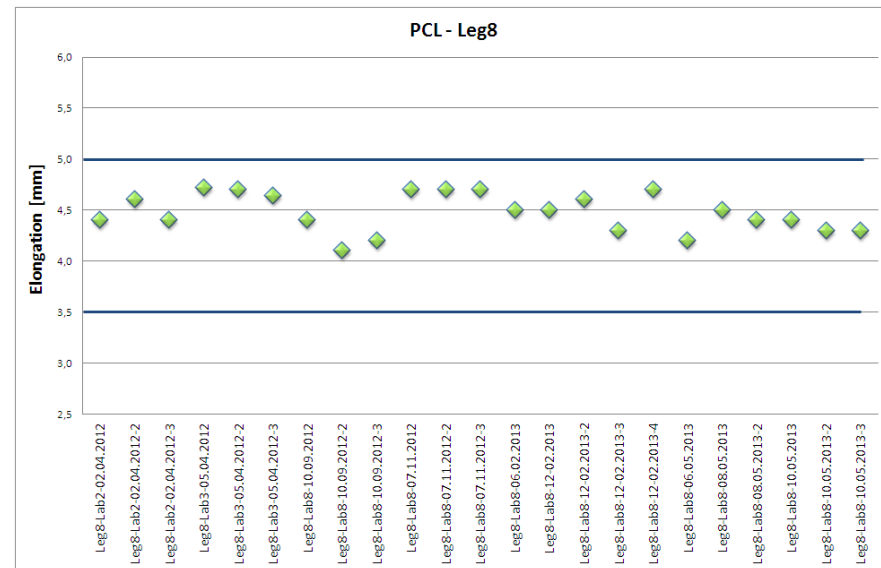
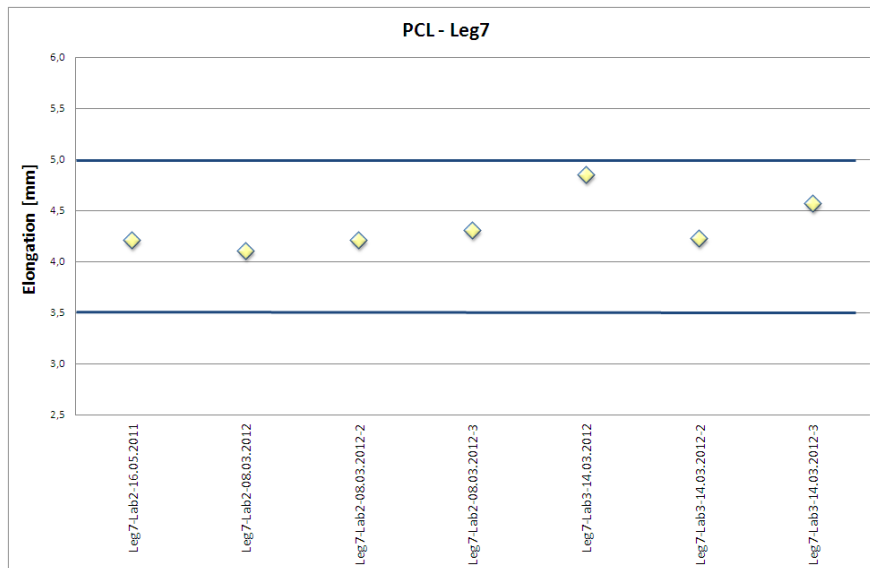
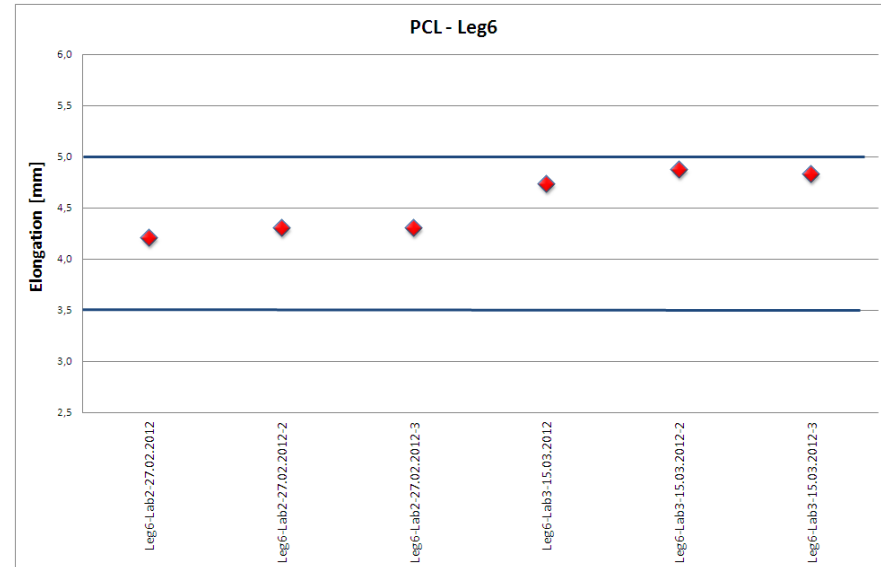
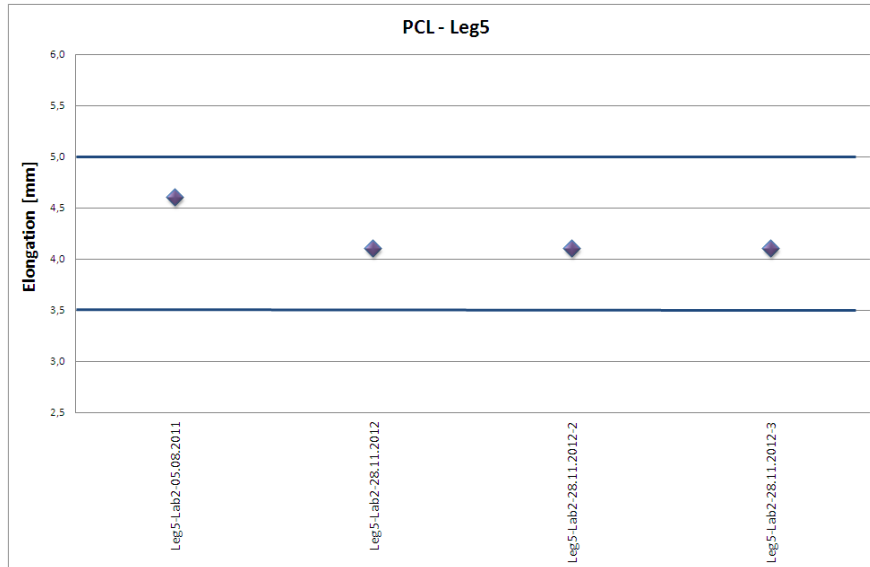


# Results PCL - Pendulum Tests

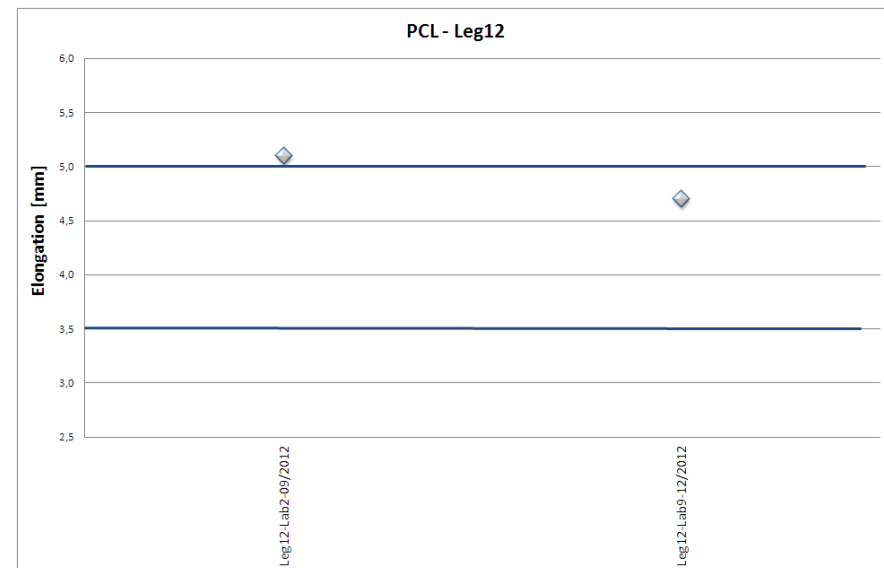
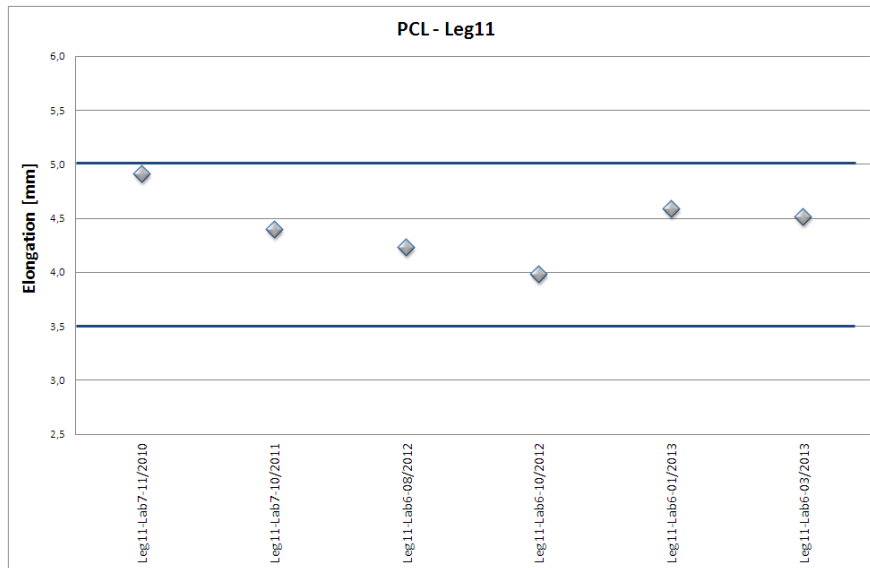
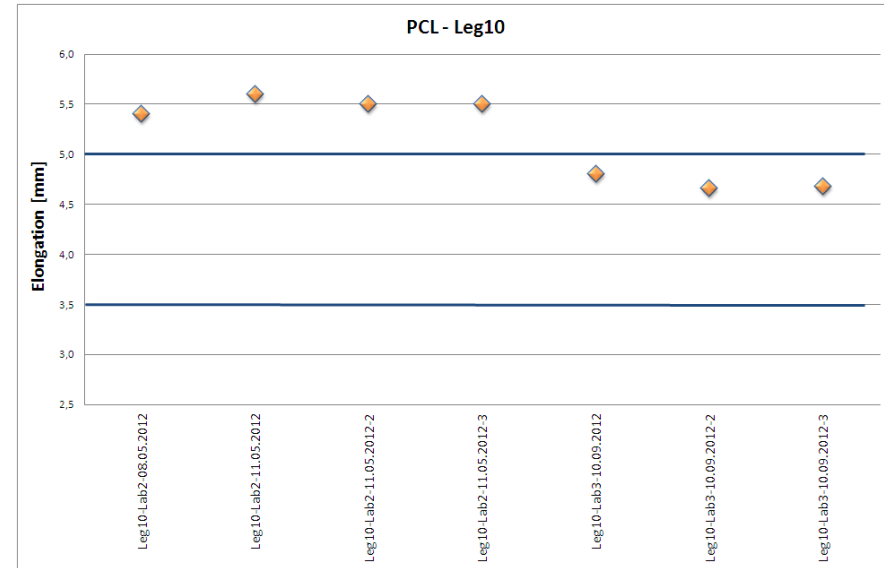
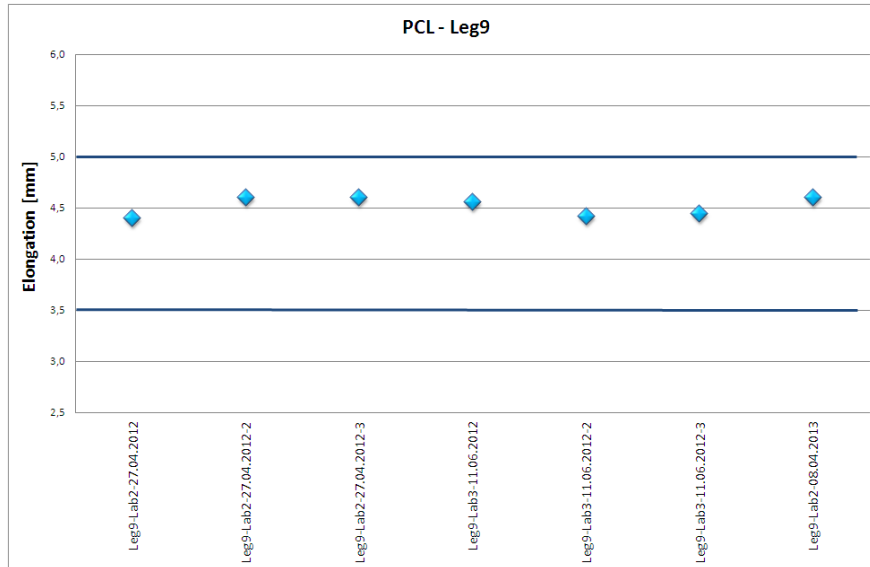




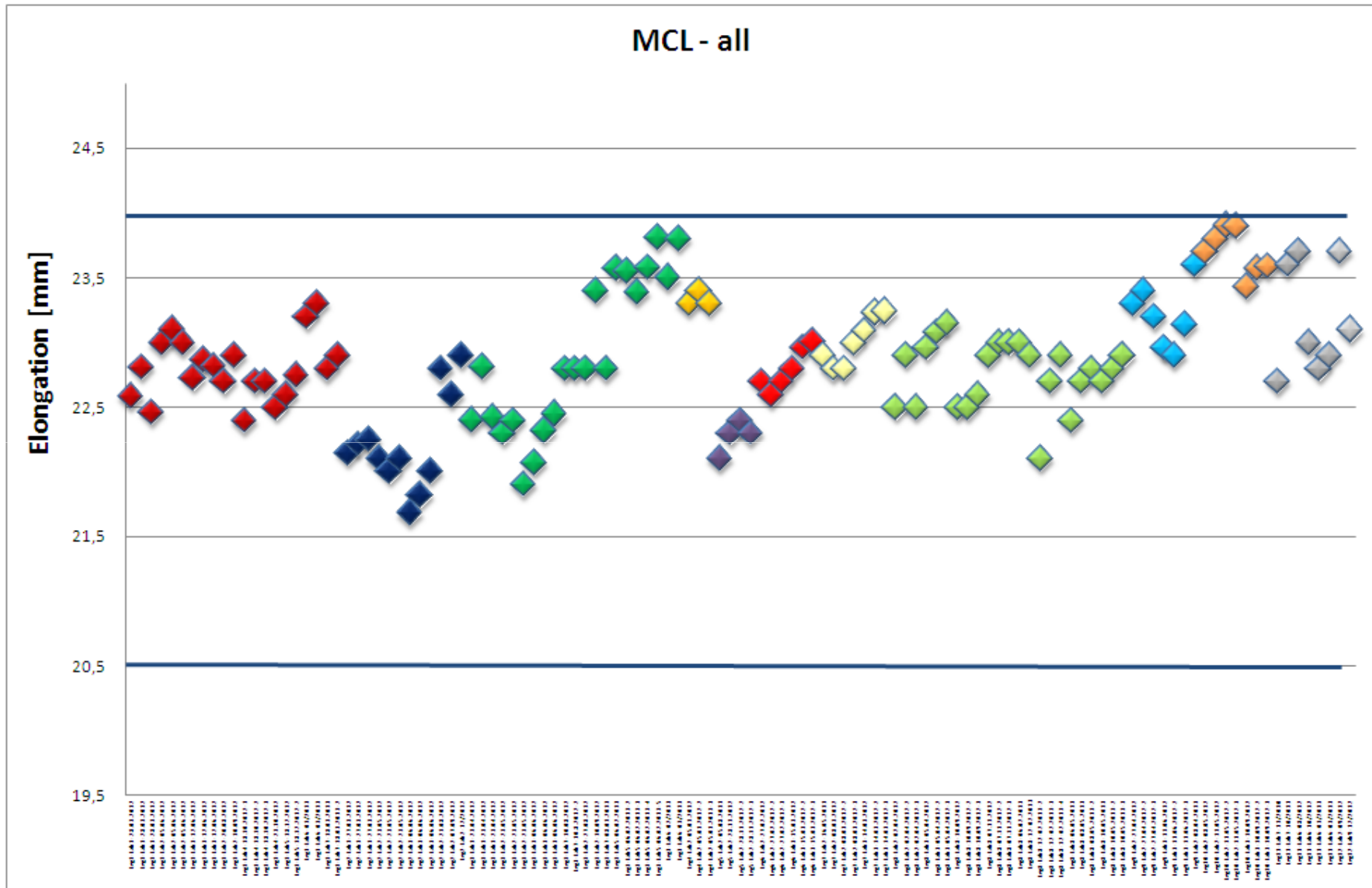
# Results PCL - Pendulum Tests



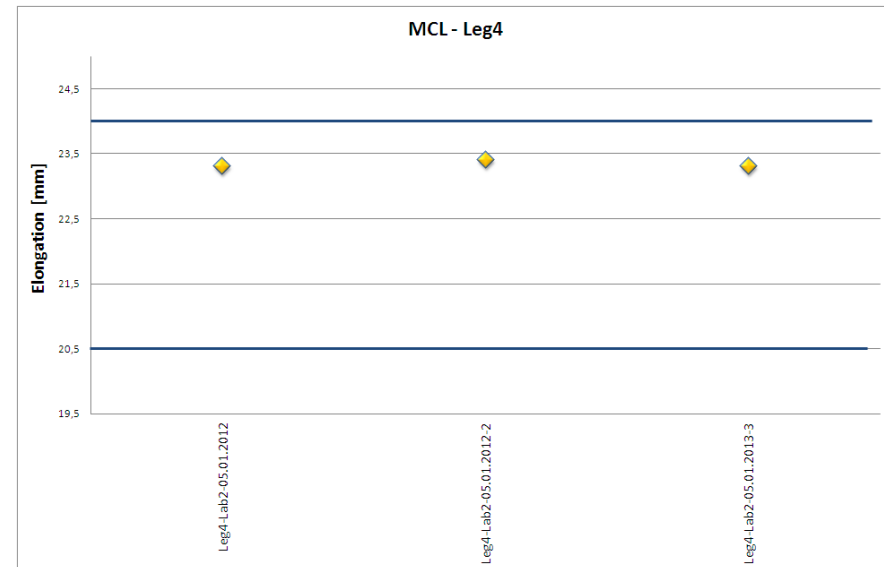
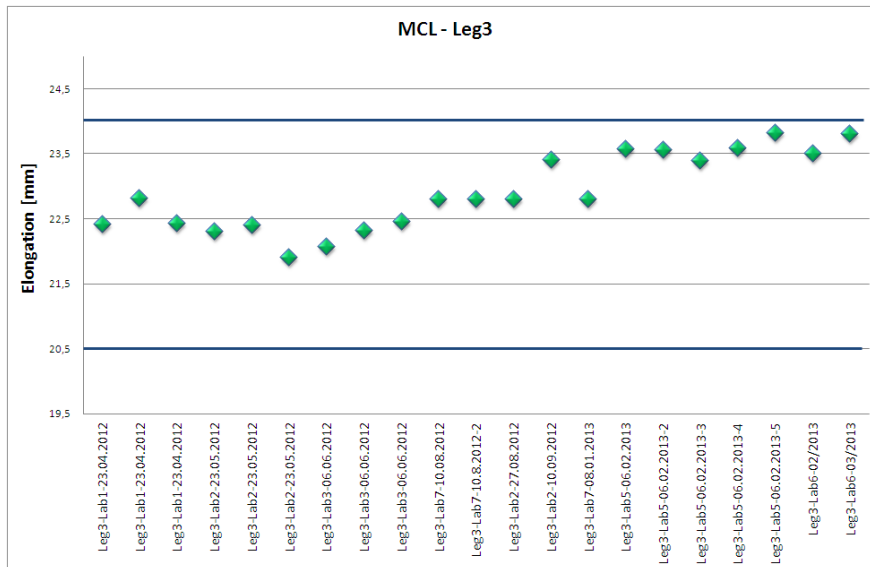
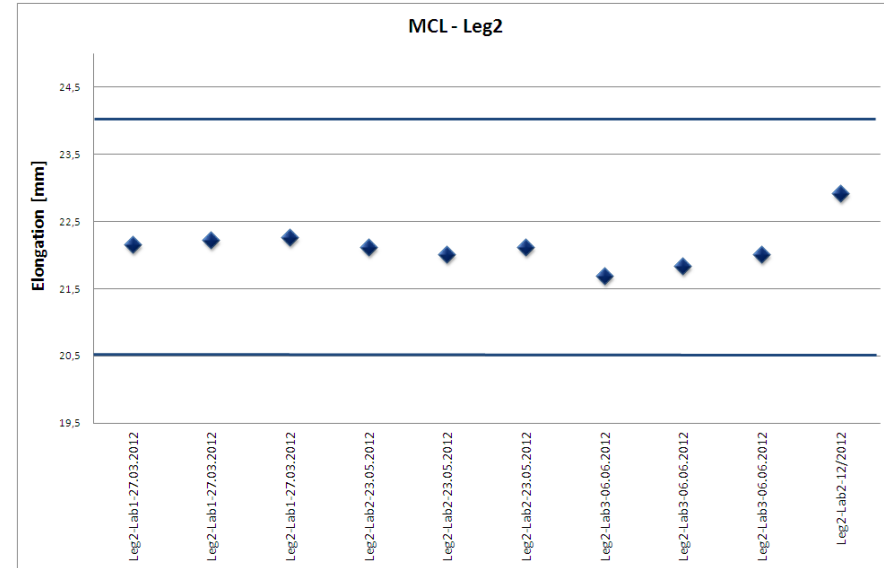
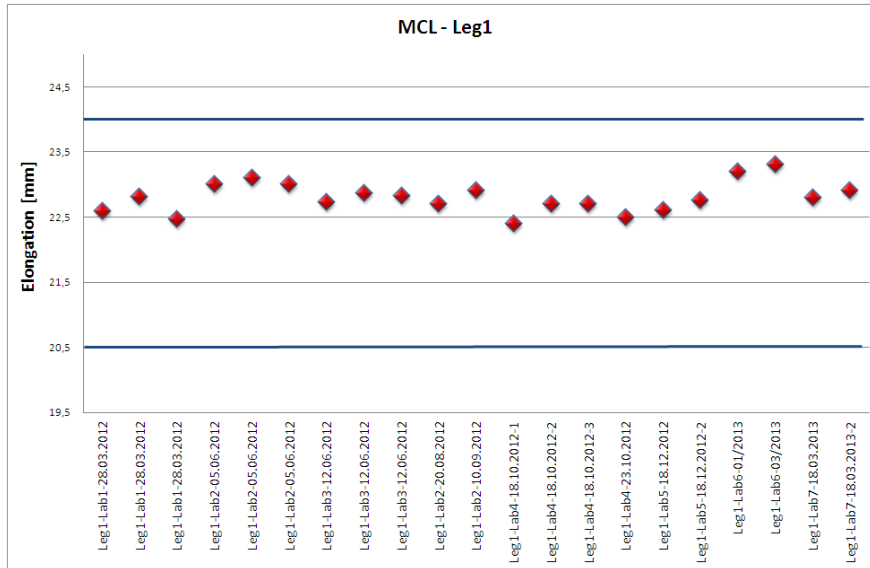
# Results PCL - Pendulum Tests



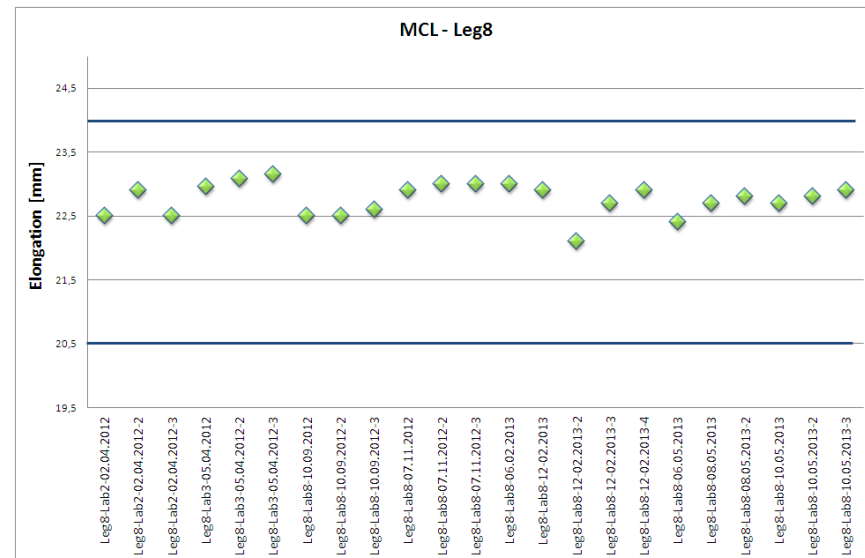
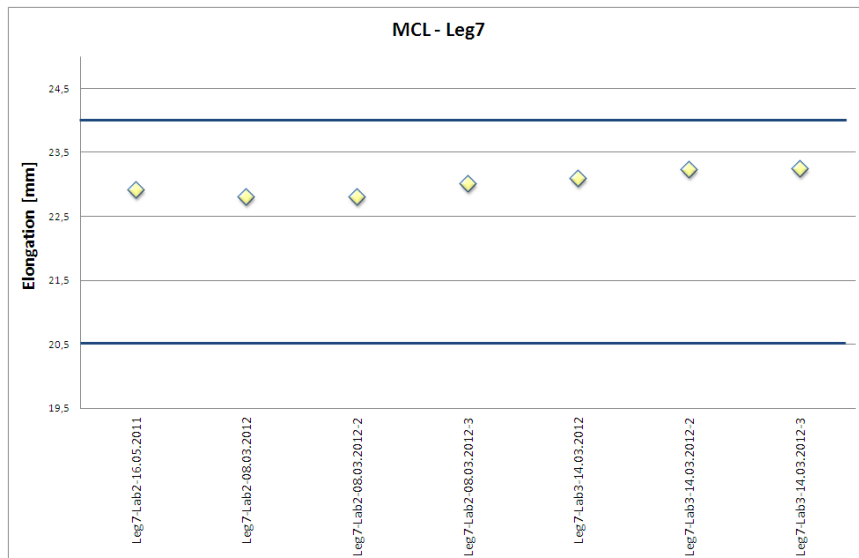
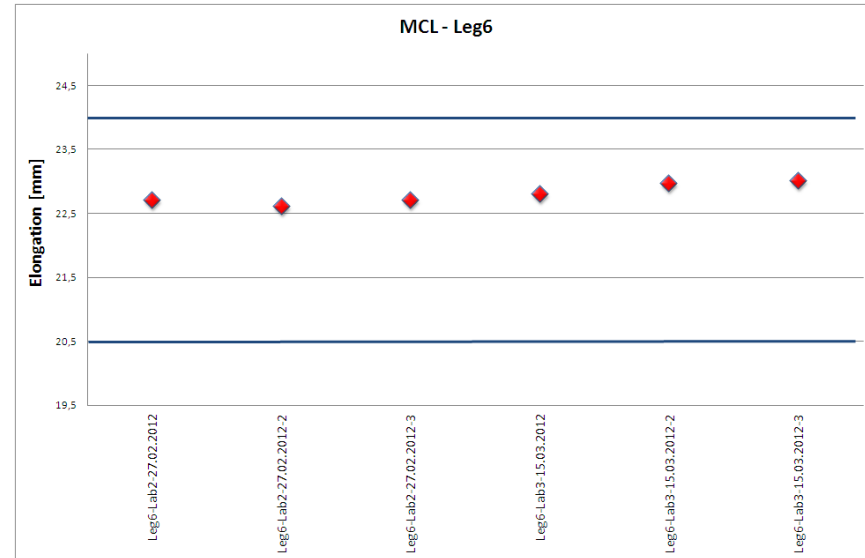
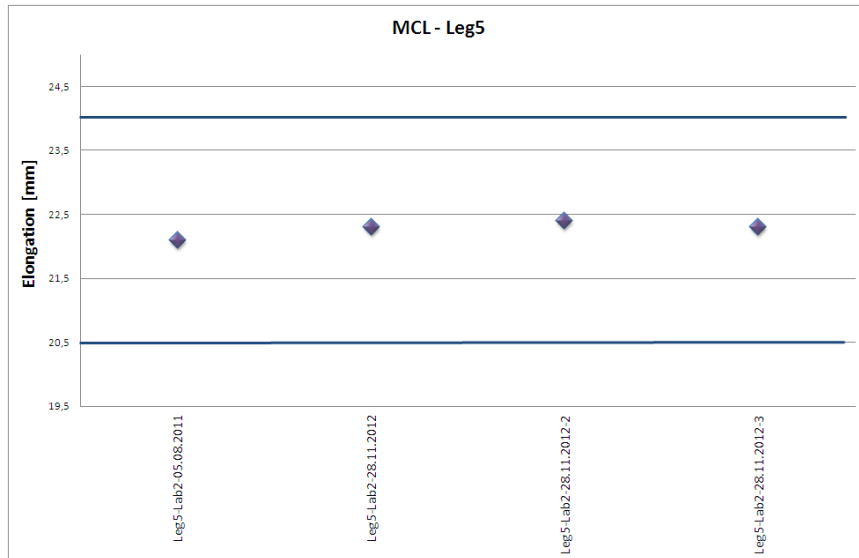
# Results Overview - Pendulum Tests MCL



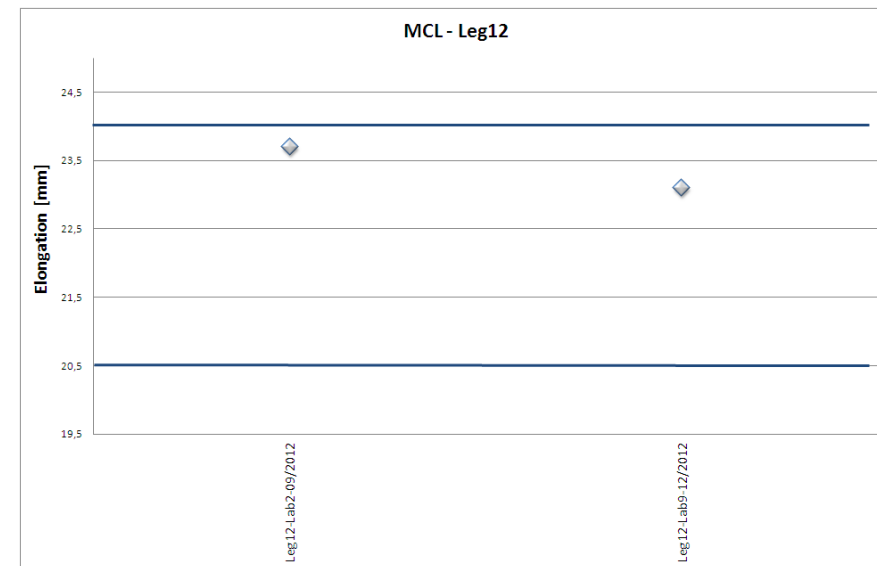
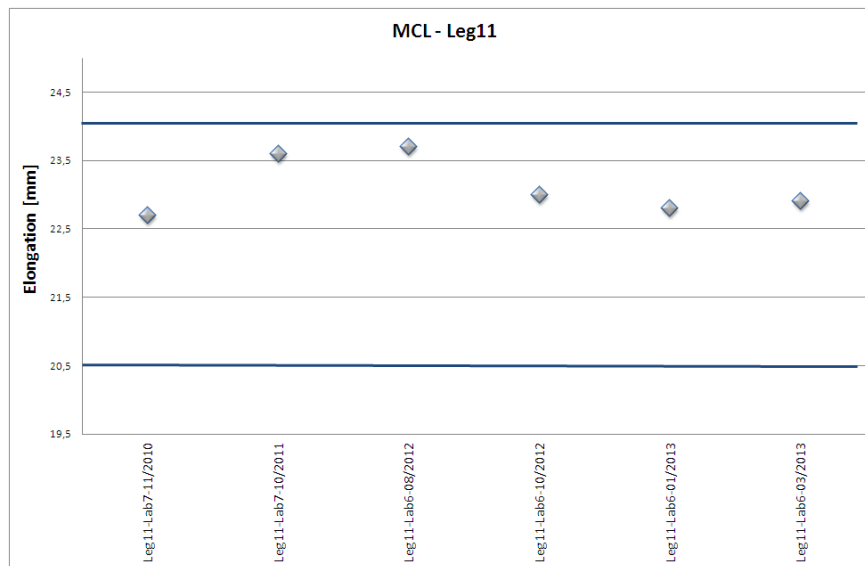
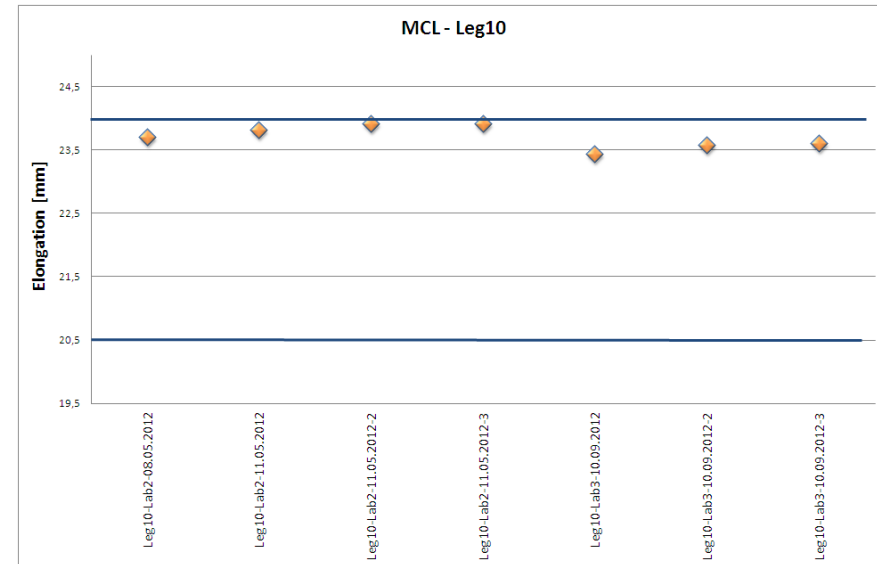
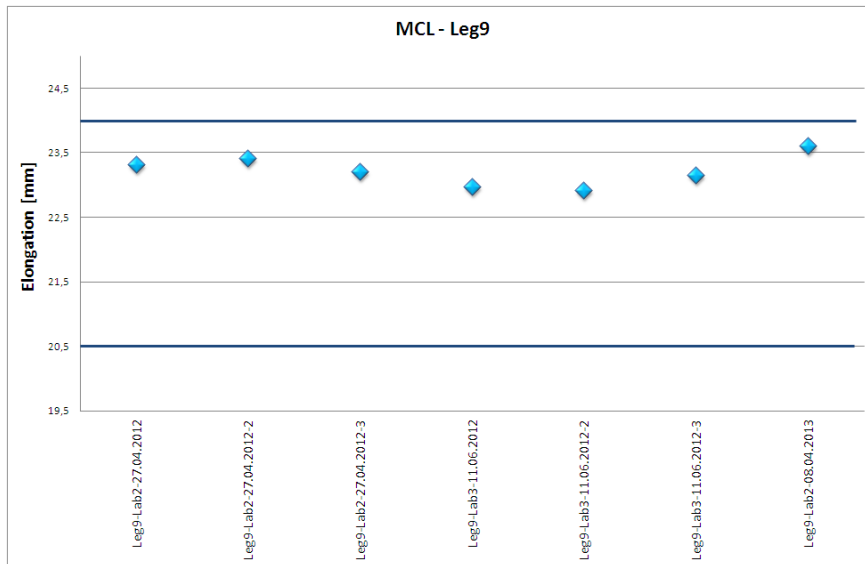
# Results MCL - Pendulum Tests



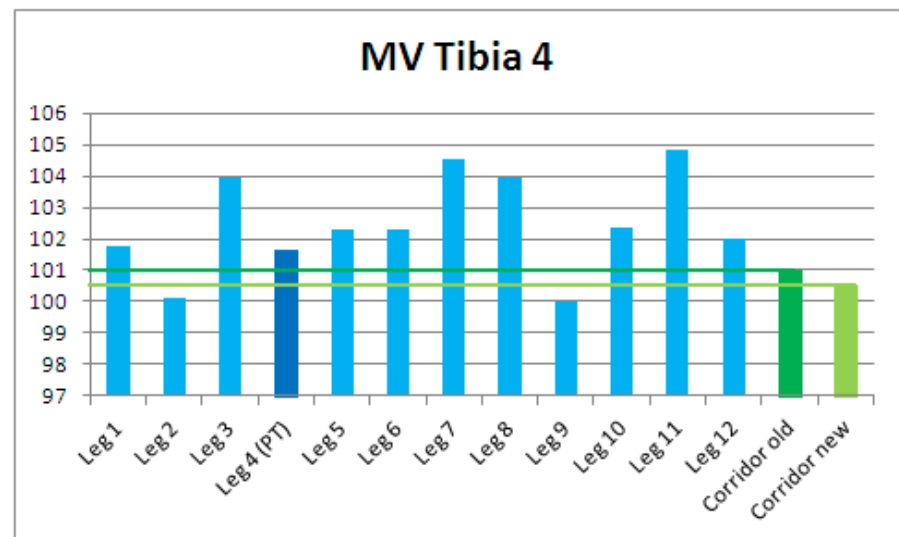
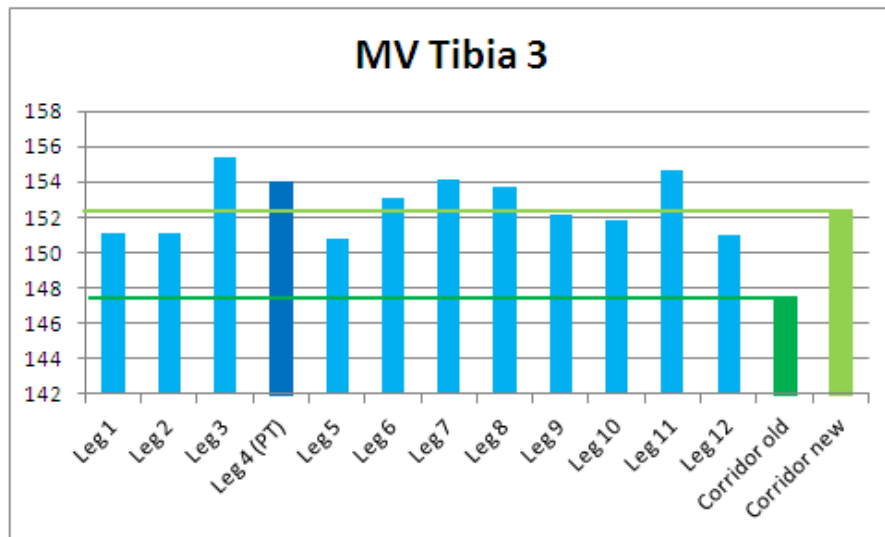
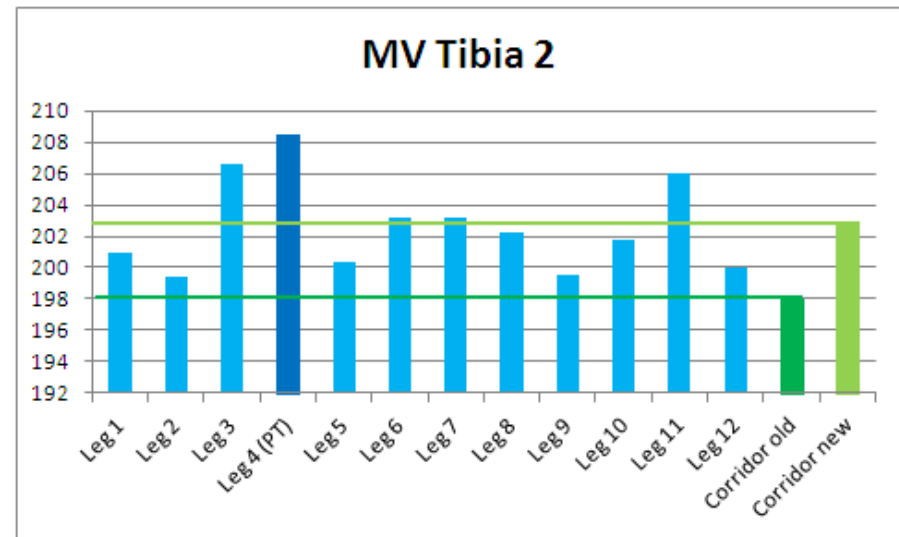
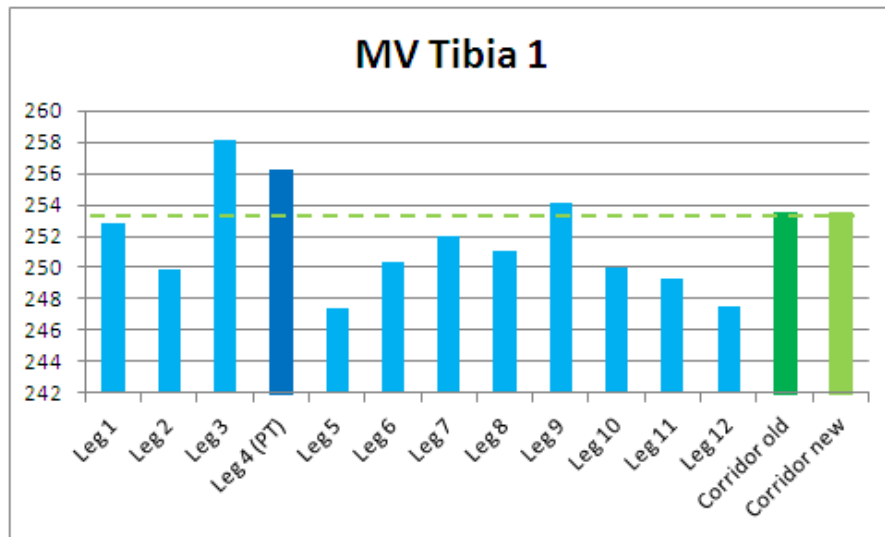
# Results MCL - Pendulum Tests



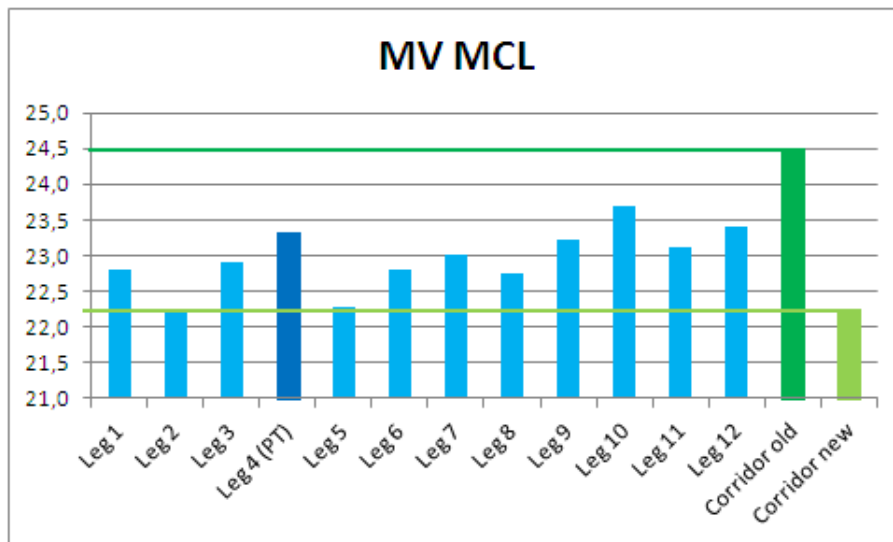
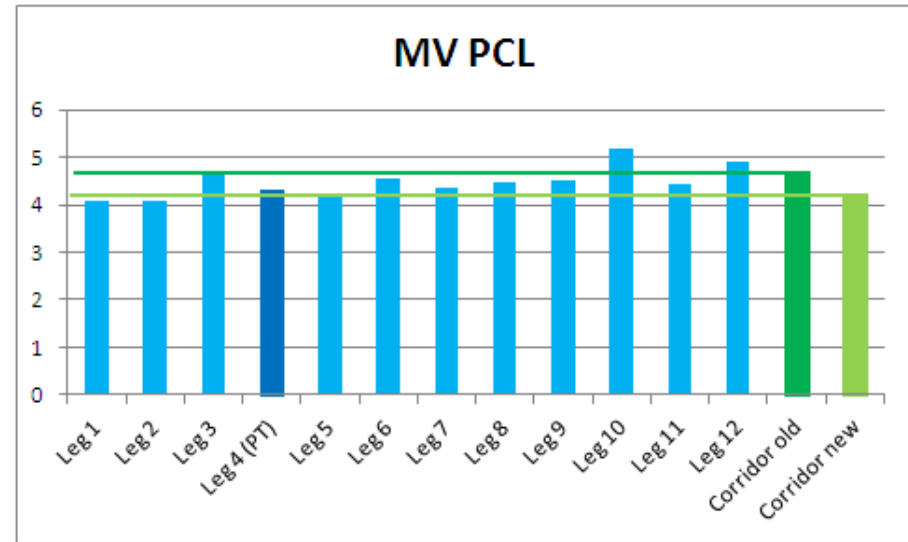
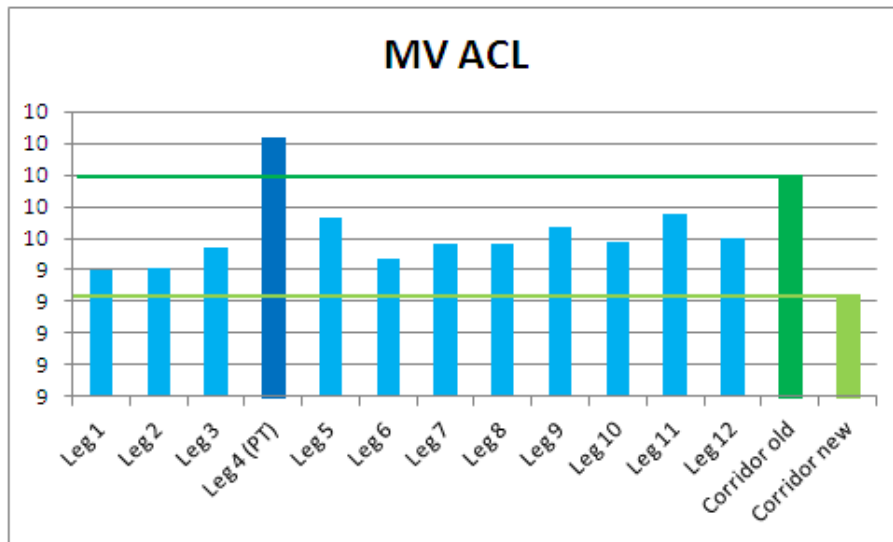
# Results MCL - Pendulum Tests



# Mean Values - Pendulum Tests



# Mean Values - Pendulum Tests





- **Tibia 1: 5 \* not met – 114 \* met**
  - **Serial production legs: 5 \* not met (defect in tibia 1 detected)**
- **Tibia 2: 1 \* not met – 118 \* met**
  - **Serial production legs: 1 \* not met**
- **Tibia 3: all met**
- **Tibia 4: all met**
- **ACL: all met**
- **PCL: 9 \* not met – 110 \* met**
  - **Serial production legs: 9 \* not met**
- **MCL: all met**