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**Task Force Review and Update of Certification Corridors (TF-RUCC)  
within the Informal Group on GTR No. 9 – Phase 2 (IG GTR9-PH2)  
Preparation for the Upcoming Audio Conference in March 2012**

# **Comments on Inverse Certification Test Procedure**

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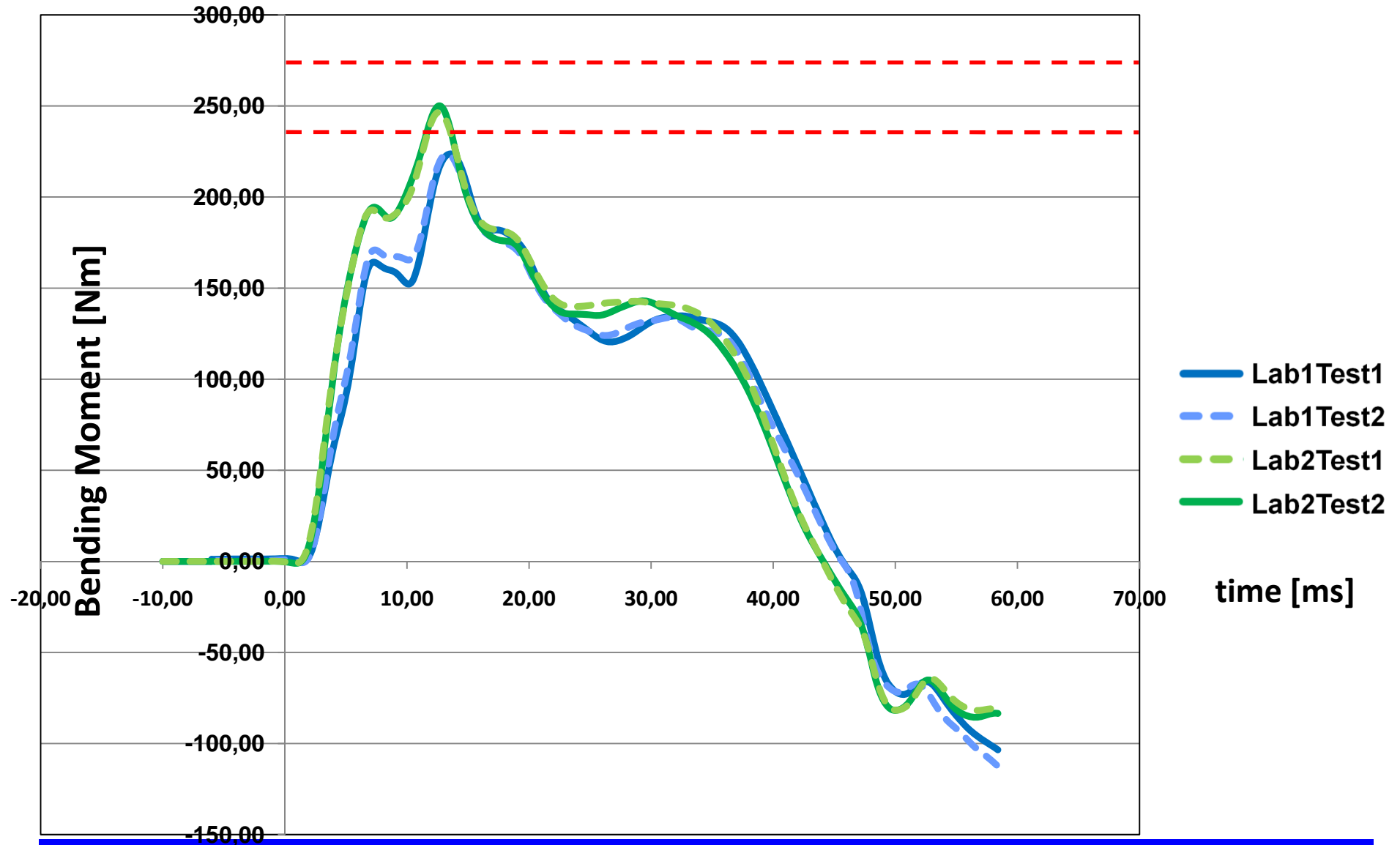
## Remarks

- By chance, a series production impactor of the FlexPLI could be certification-tested in two different test laboratories
- Legform was produced mid 2010 and delivered to the customer in September 2010 but had a major repair/overhaul before the certification tests were conducted
- Both labs are considered to be experienced labs
- Tests were conducted in sequence, no other tests were conducted in between
- Handling/shipping in between testing followed the procedures recommended by the impactor's manufacturer
- Unfortunately, one of the labs could not conduct the pendulum test



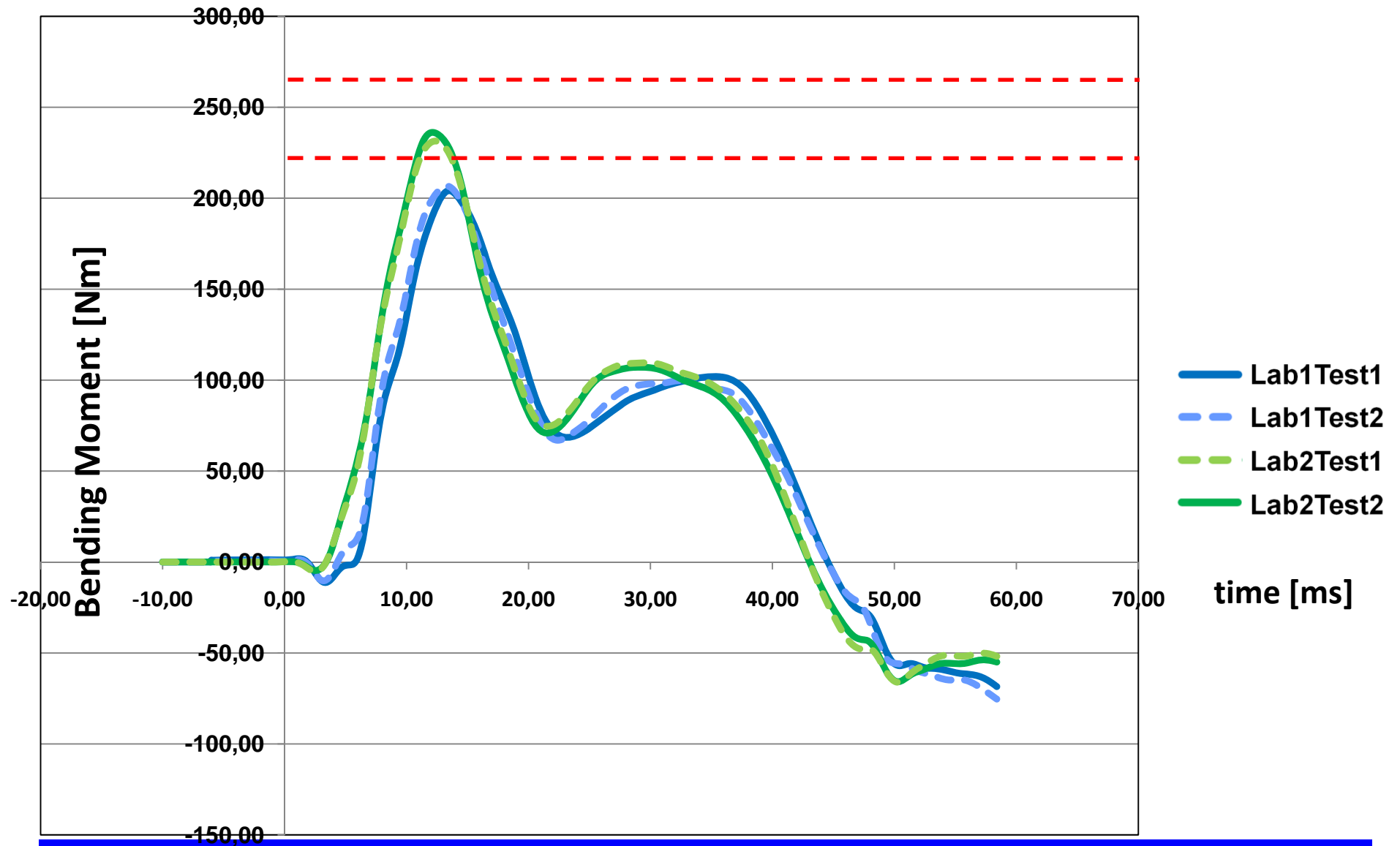
# Test Results Inverse Tests (Time History Curves)

## Tibia 1



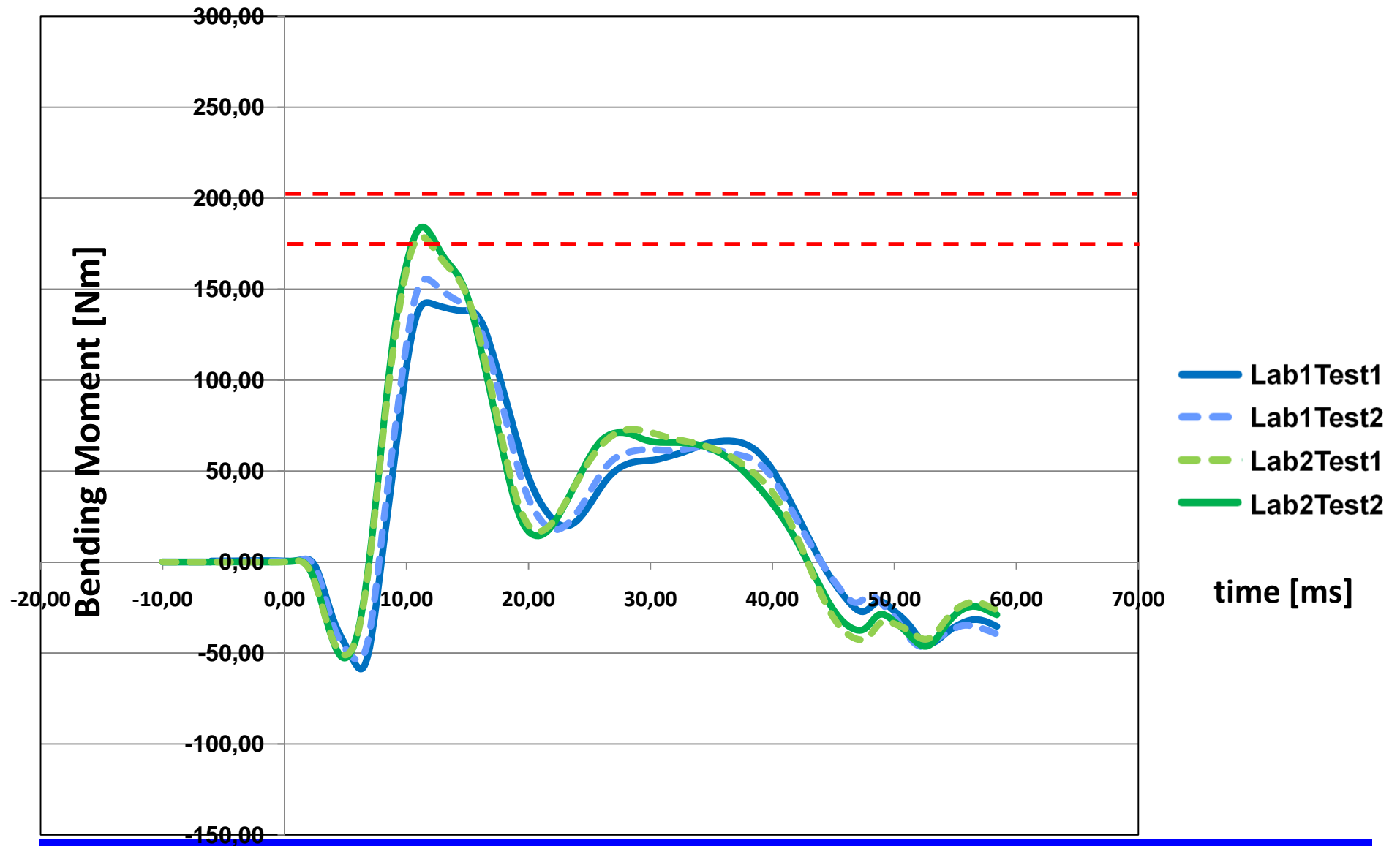


## Tibia 2



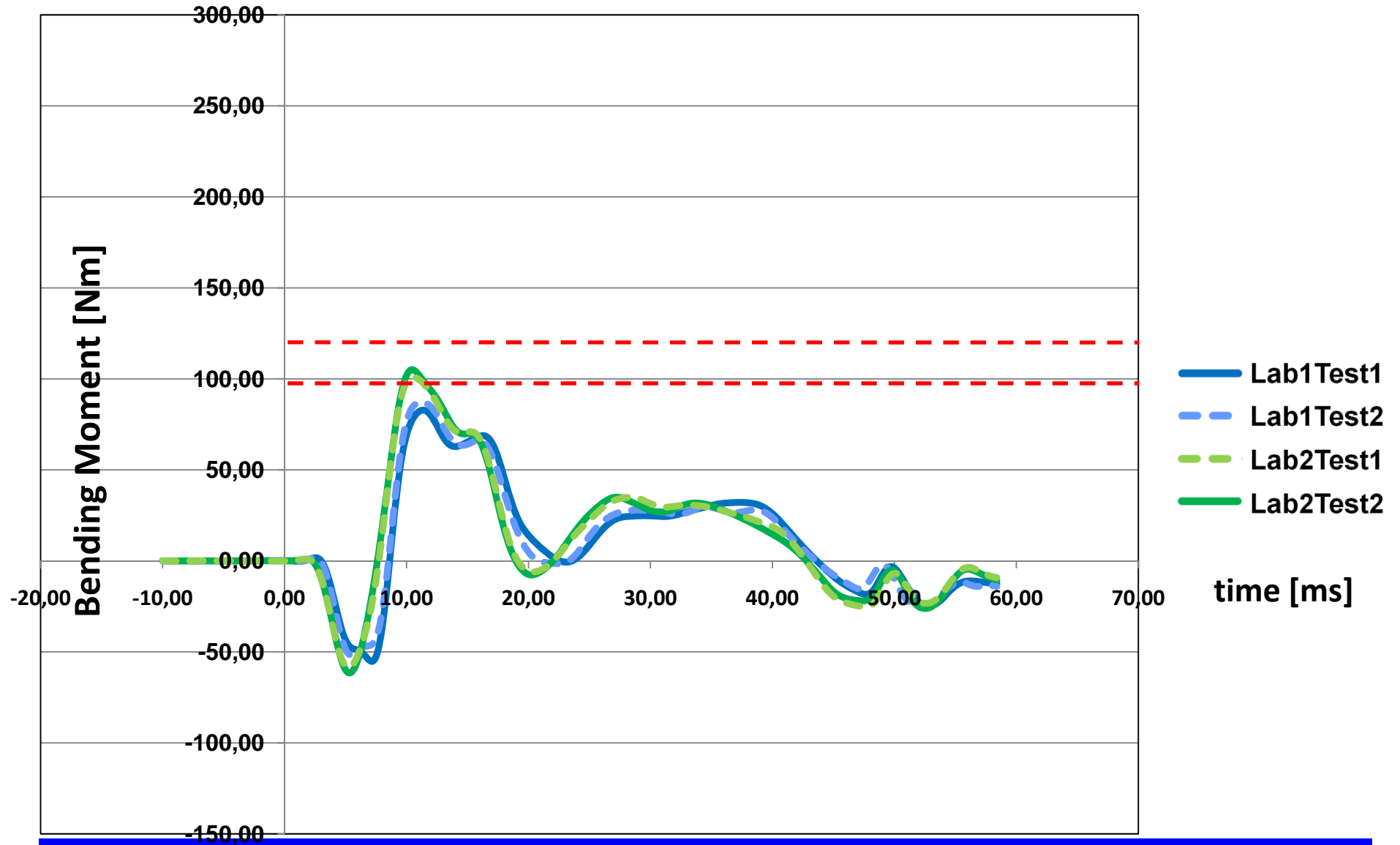


## Tibia 3



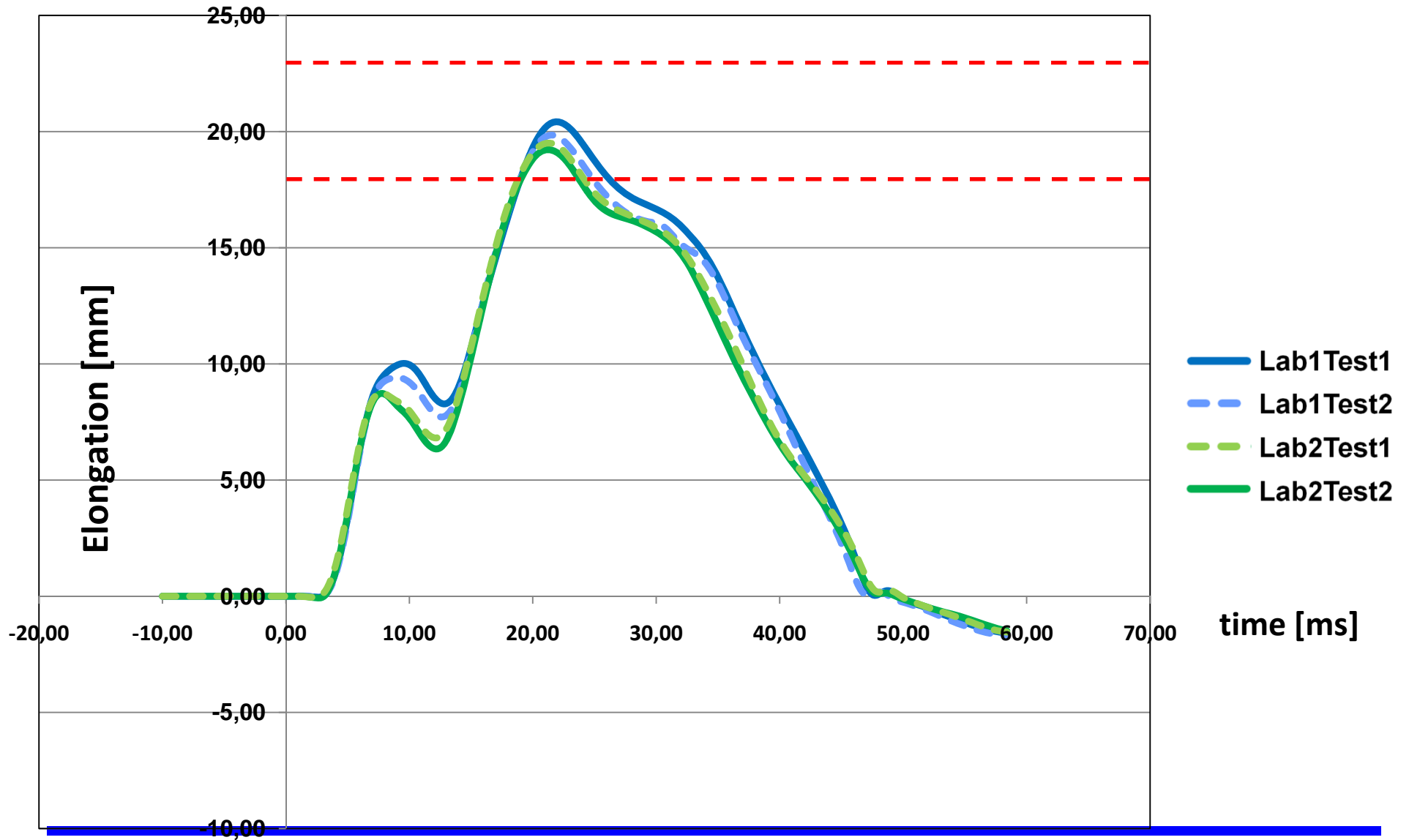


## Tibia 4



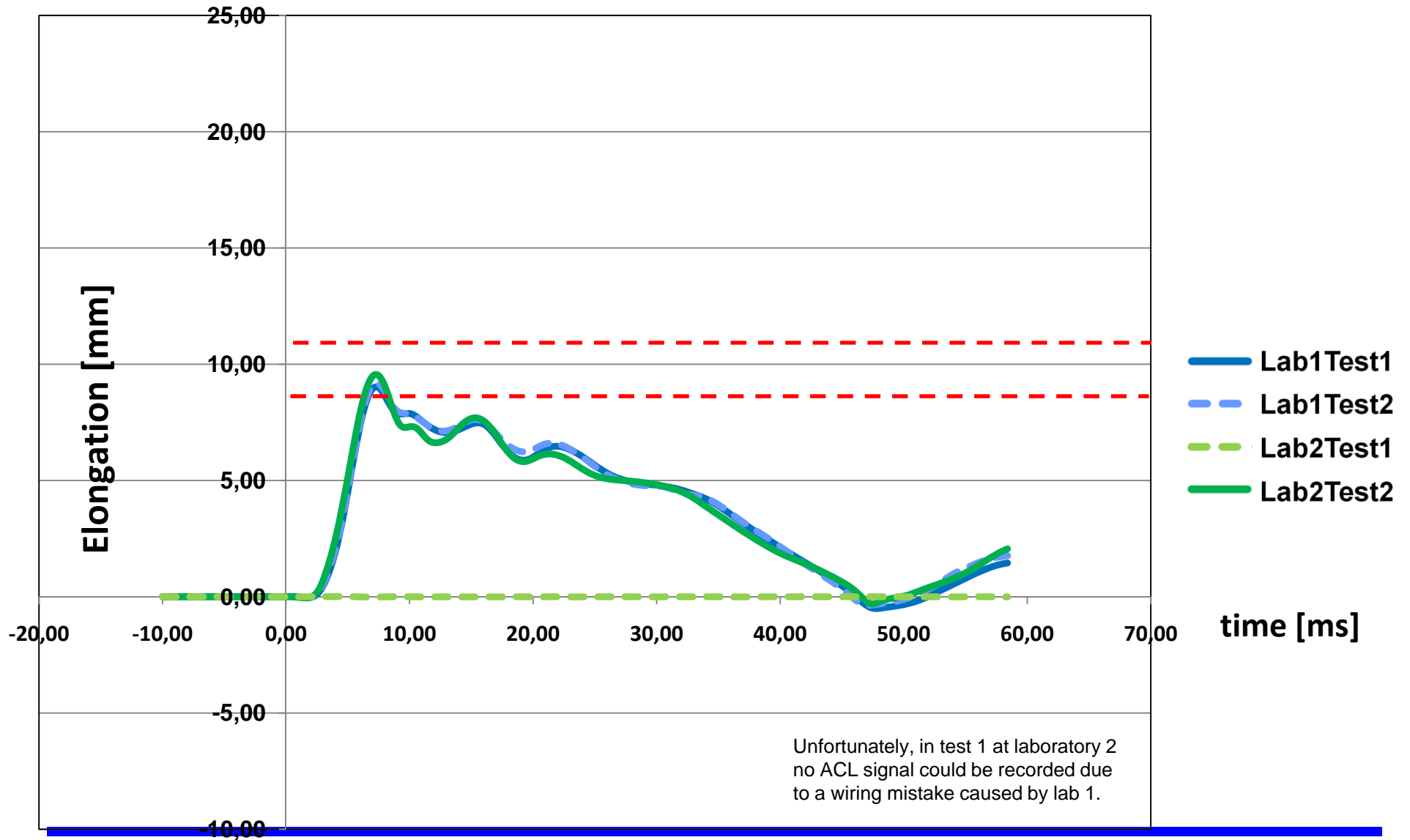


# MCL





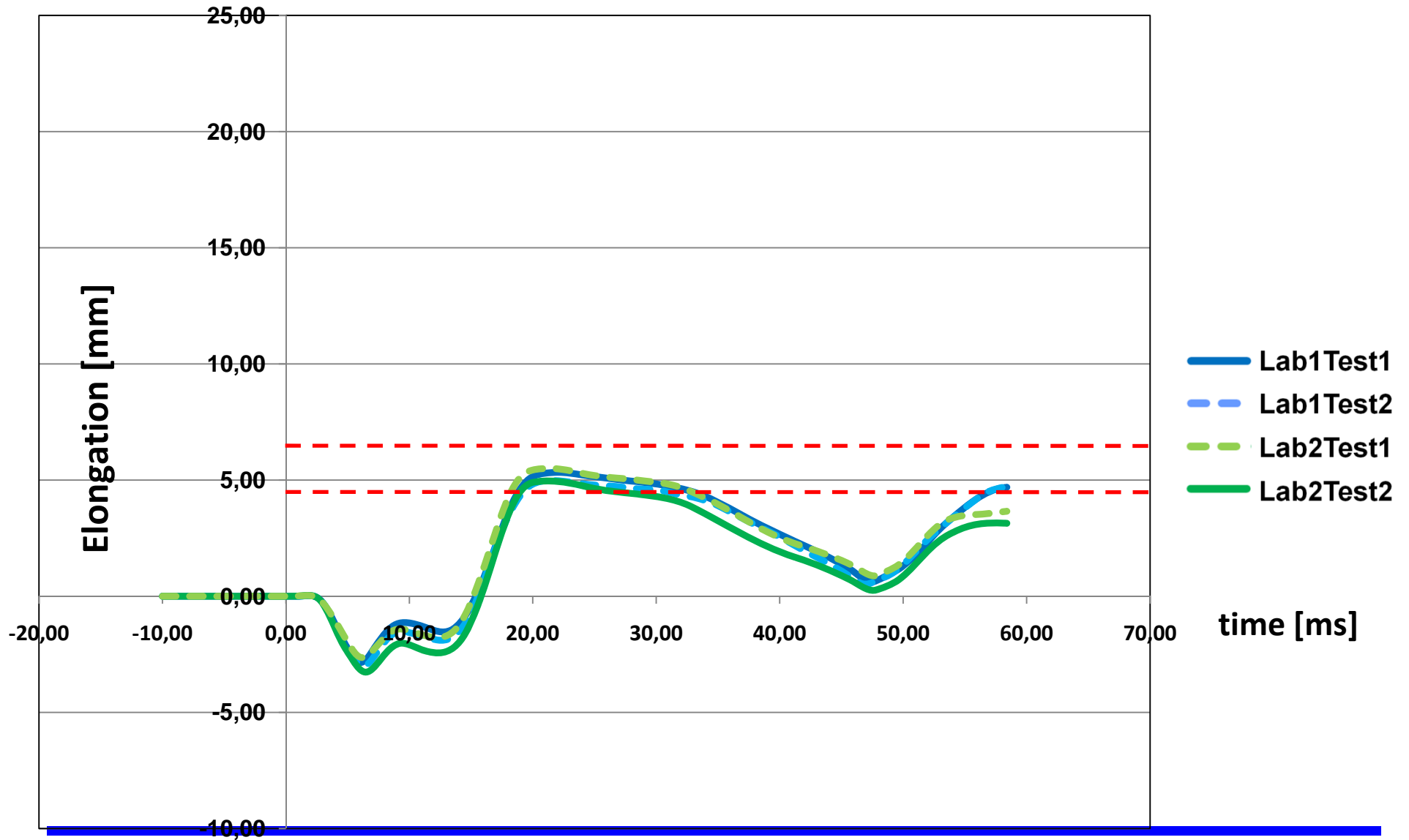
# ACL







# PCL





## Test Summary

	Tibia A1	Tibia A2	Tibia A3	Tibia A4	ACL	PCL	MCL
Lab1Test1	223,68	204,11	142,55	82,83	9,03	5,33	20,42
Lab1Test2	223,58	206,73	155,59	87,14	9,18	4,98	19,85
Lab2Test1	246,56	231,40	178,81	101,03	0,01	5,50	19,51
Lab2Test2	250,07	236,14	184,12	105,06	9,56	4,96	19,22
Corridors min.	237	223	176	98	8,5	4,5	18
max.	277	269	204	120	10,5	6	23

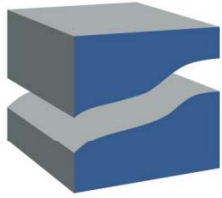
- Following the test results, laboratory 1 considers the inverse certification to be failed while lab 2 considers it to be met
- Also, two pendulum tests were conducted by lab 1
- All test results met the certification corridors for this test
- Due to the test procedure, no significant differences would be expected if the other lab had also conducted the pendulum test



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## Conclusions

- Current discussion on certification corridors seems to be less a discussion on the impactor quality than a discussion on the lab-to-lab variability
- The inverse certification test procedure is still the main choice for European manufacturers since the impactors' responses are better comparable to the vehicle tests
- However, the test procedure (and probably test equipment) obviously need to be better specified to assure that different labs produce comparable results
- Based on the findings presented in this document, these specifications need to be the very first step
- ACEA fully supports the idea of the chairman to use the laboratory that had defined the respective certification procedure as “golden lab” or master lab



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**THANKS**

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