

# Humanetics Innovative Solutions, Inc.

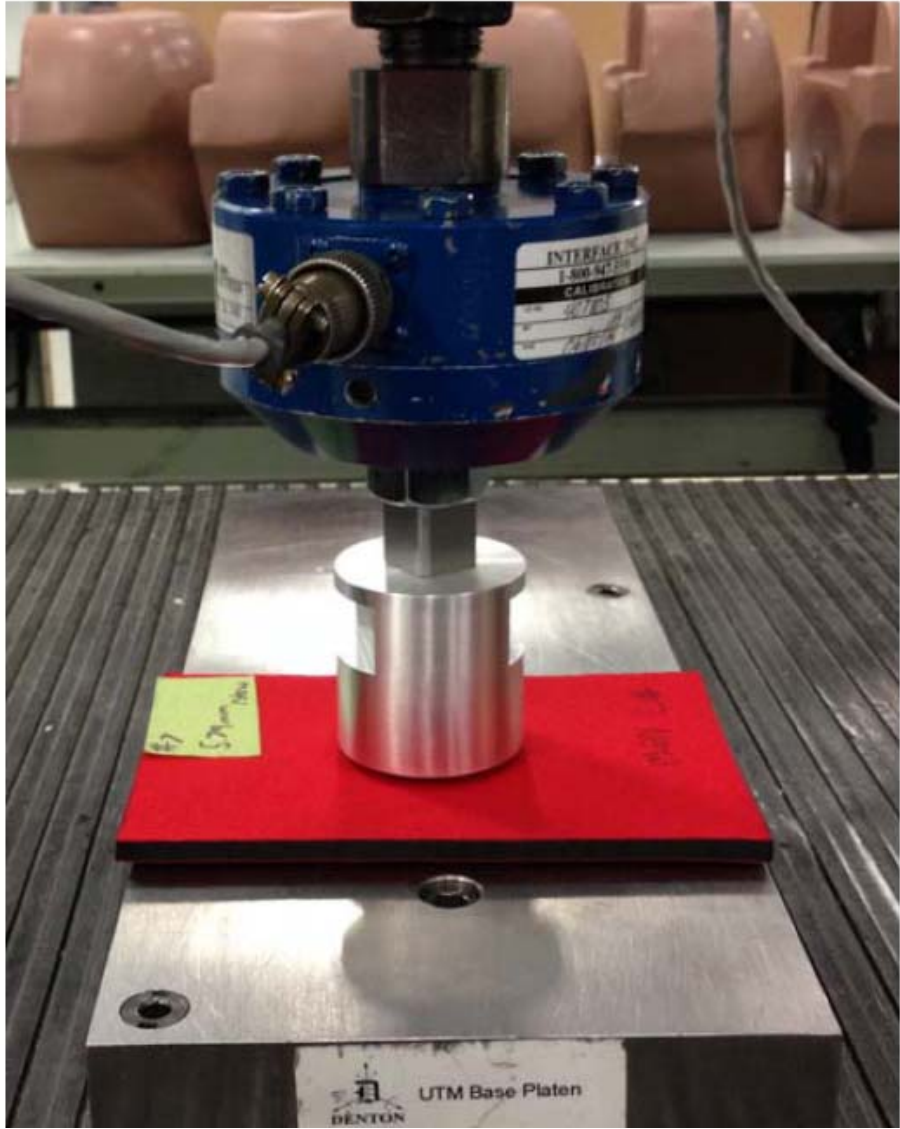
Flesh Neoprene Corridor  
Flex PLI

IG GTR9-PH2 9<sup>th</sup> Meeting

# Introduction

- ▶ The Neoprene corridor in the regulation does not match the GTR production specification (Dec 2008).
- ▶ This was due to a change in material and a difference in nominal thickness from 5 to 5.6 mm
- ▶ Testing 12 various samples 6 old and 6 new, results were used to redefine the stress strain requirement for the regulation
- ▶ Samples were compressed to 90% of their individual thickness

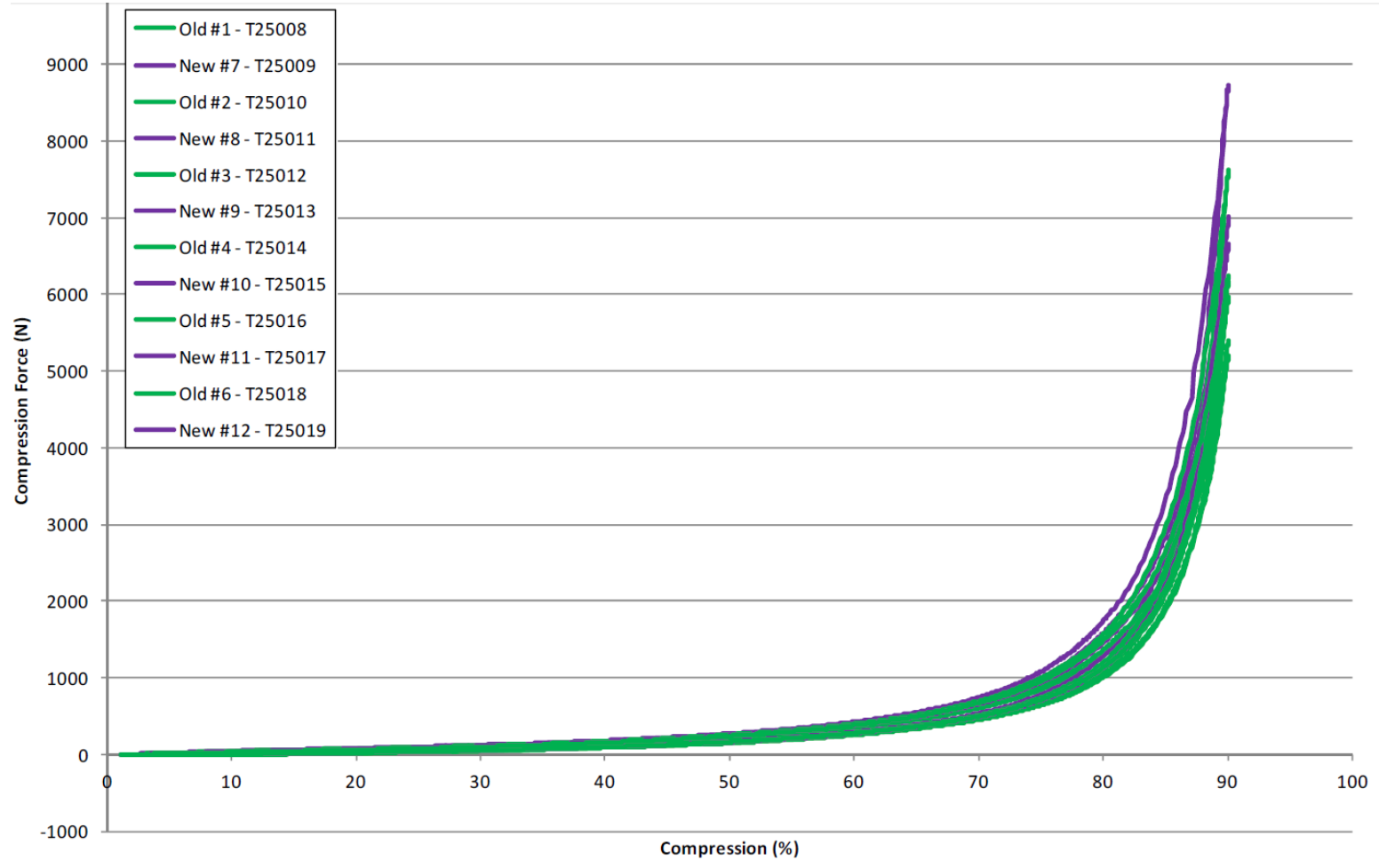
# Test set up with sample



# Sample height and force

Sample	Test Num	Height (mm)	Cycle 1 Peak Force (N)
Old #1	25008	5.85	5960
Old #2	25010	5.92	6156
Old #3	25012	5.96	5202
Old #4	25014	5.89	7615
Old #5	25016	5.94	5405
Old #6	25018	5.93	6249
New #7	25009	5.77	7002
New #8	25011	5.91	5784
New #9	25013	6.07	8734
New #10	25015	5.96	7309
New #11	25017	6.17	6659
New #12	25019	5.98	6901
Old	Average	5.92	6098
	Std Dev	0.0404	852.1
	CV%	0.7	14.0
New	Average	5.97	7065
	Std Dev	0.1367	967.6
	CV%	2.3	13.7

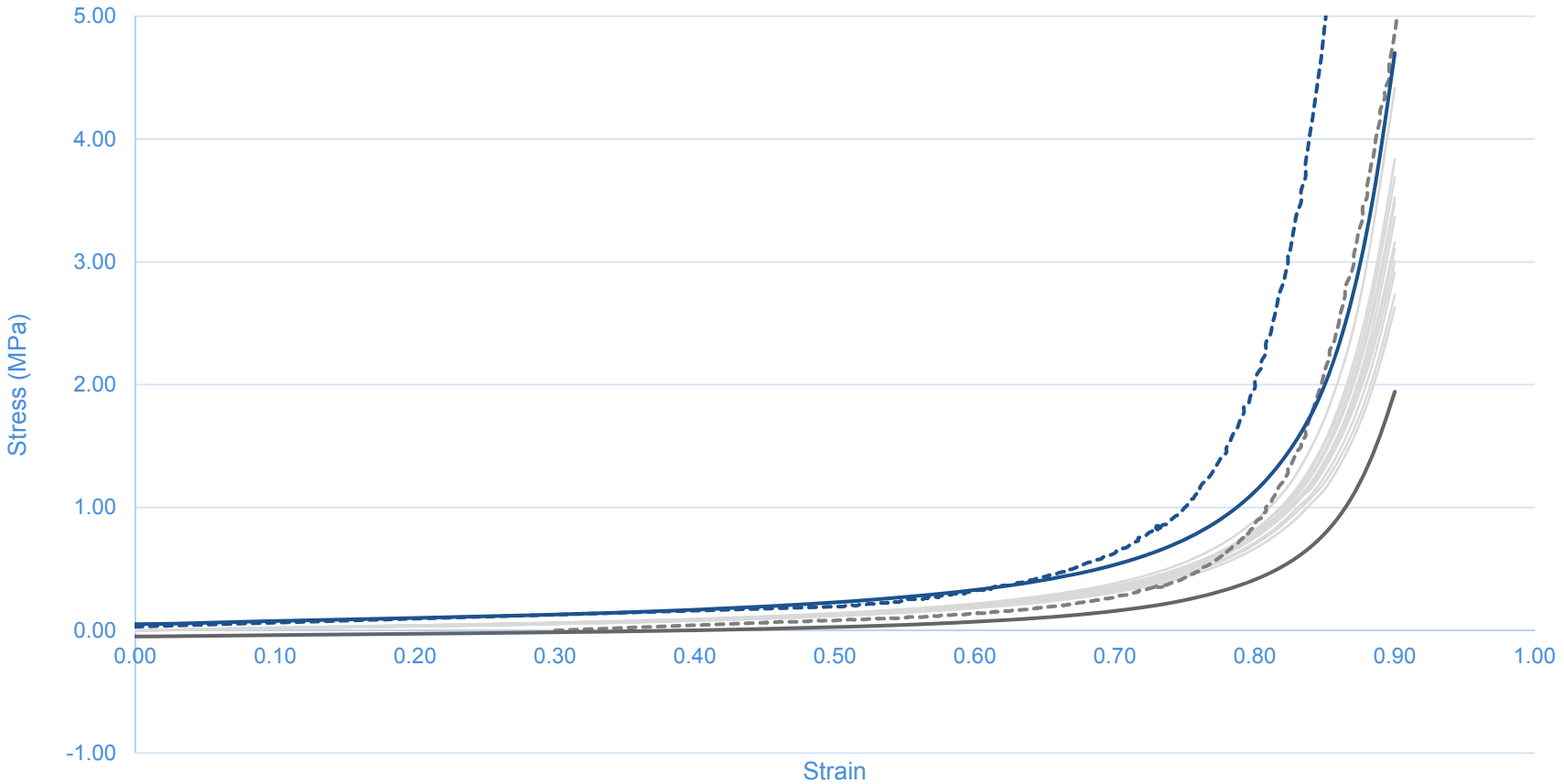
# Overlay force vs % compression



# Analysis

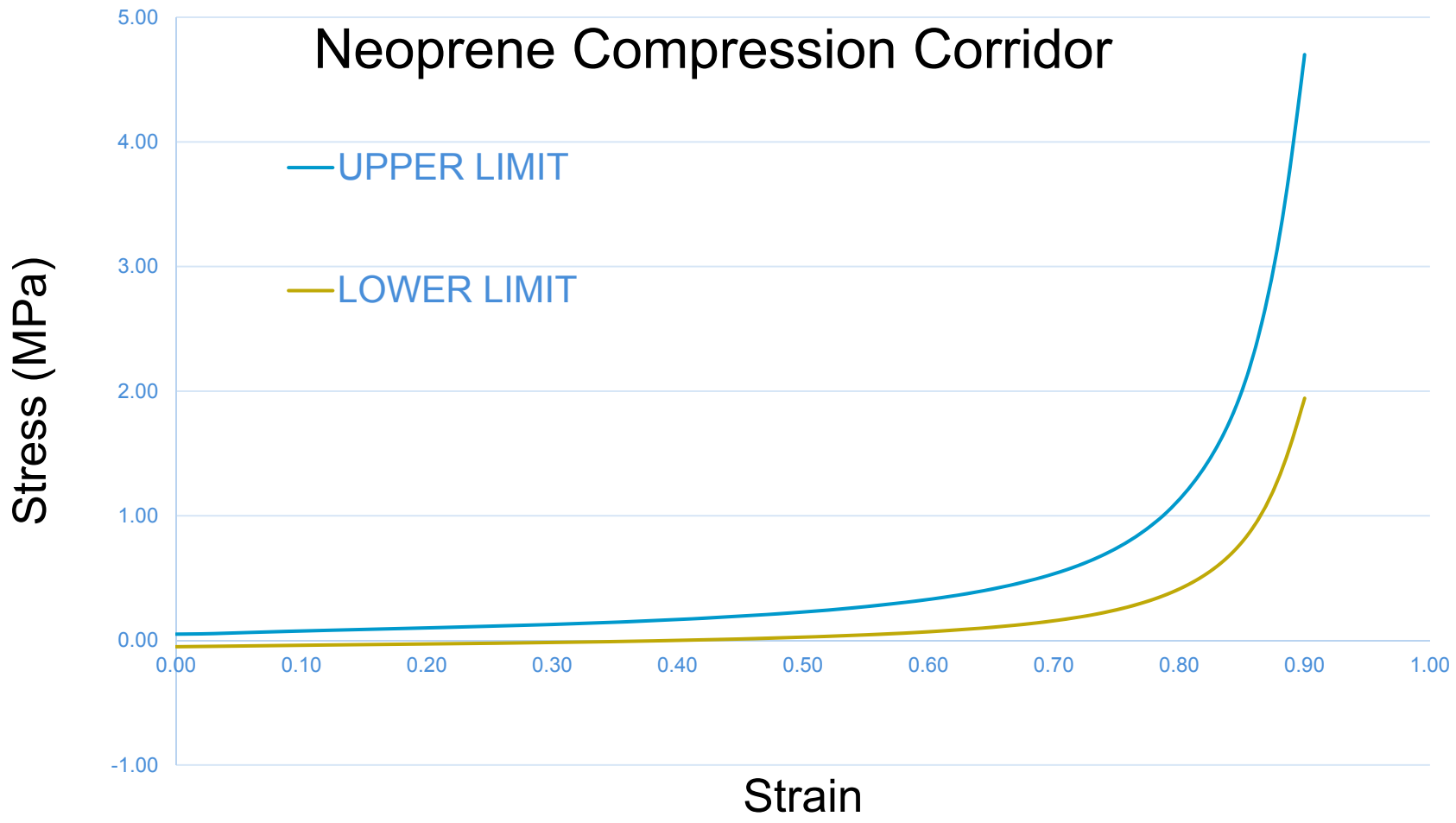
- ▶ Compression % was converted to strain
- ▶ The average of the 12 results were calculated
- ▶ A corridor of  $\pm 40\%$  on stress values was applied about the average

# Comparison current and proposed corridor with results



- t25008
- t25009
- t25010
- t25011
- t25012
- t25013
- t25014
- t25015
- t25016
- t25017
- t25018
- t25019
- Current Upper
- Current Lower
- New Proposed Upper
- New Proposed Lower

# Proposed Neoprene Corridor







Thank You