TEST REQUEST

		Issue Date:	5/9/2013
Program:	CAE-Setup	**TMD Test Request #:**	2013T0369
Title of Test:	Elevated Temp Load/Deflection Test	**Customer Request #:**	TMD-Laskey-CAE Setup
Test Objective:	To find the deflection vs. load for 3 different materials at 3 temperatures	**Customer:**	TMD
Client:	Althaus, Jeremy	**Component:**	Test Bar
Email:	althausj@TMDINC.COM	**Phone:**	419-725-7485
Mailing Address:	TMD-Laskey 4 East Laskey Road Toledo, Ohio 43612	**P.O.#:**	CAE-Setup
		Quote #	NR
		Test Location:	Tensile
Number of Parts: 12	**Test Type:** Development	**Design Flow:**	****
Report Copies To:	lappj@tmdinc.com, schumakb@tmdinc.com	**Test Tech.:**	Joe
Test Spec #:	Instructions provided by engineer	**Test Spec Rev or Date:**	N/A
Reference: None	**Pre Test:** None	**Post Test:**	None

Item(s) for Testing & Quantity:	Part Numbers:	Serial Numbers:	
Test Bar	N/A	2013T0369-1A	2013T0369-3A
		2013T0369-1B	2013T0369-3B
		2013T0369-1C	2013T0369-3C
		2013T0369-2A	2013T0369-4A
		2013T0369-2B	2013T0369-4B
		2013T0369-2C	2013T0369-4C

Test Procedure:

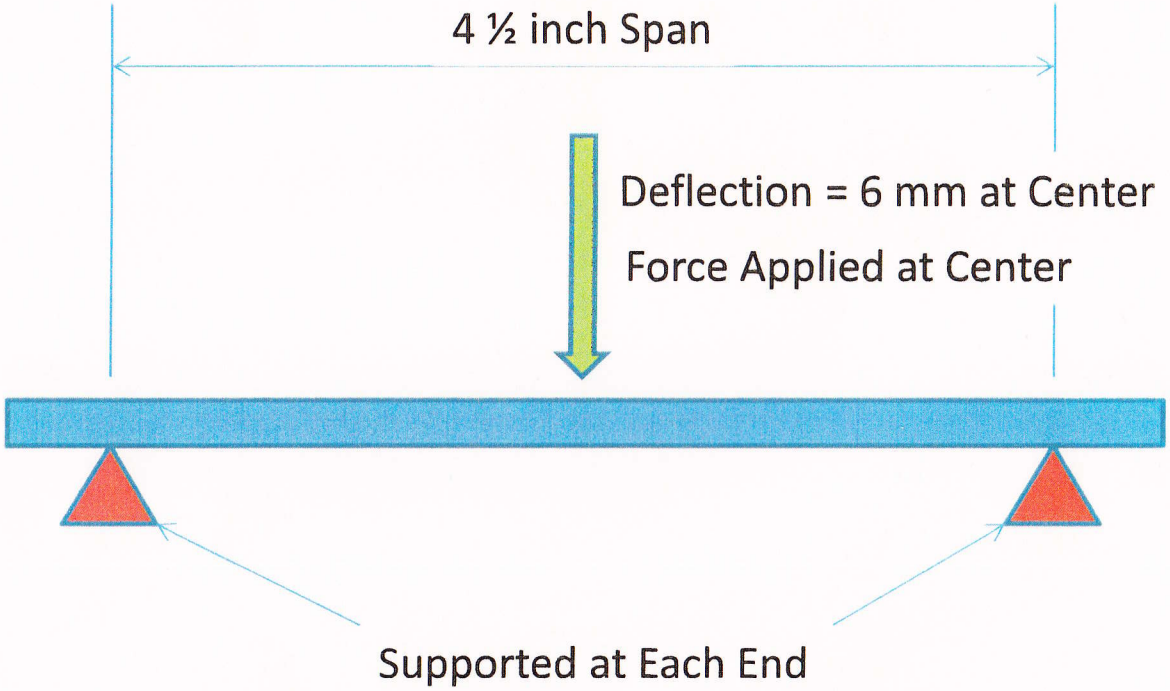
load part in 3pt bending in the instrom machine and record the load vs. deflection for each part at 4 different temperatures

for parts 2013T0369-1A, 1B, 1C: test at room temp
for parts 2013T0369-2A, 2B, 2C: test at 212F (100C) 1 hour soak
for parts 2013T0369-3A, 3B, 3C: test at 248F (120C) 1 hour soak
for parts 2013T0369-4A, 4B, 4C: test to failure at room temp
Load rate: 2 in/min (0.85mm/s)

Sensitive Information Requirements:	The Test Lab sensitive information procedures must be followed at all times. Any special requirements for handling sensitive information for this test are listed below: None

Disposition of Parts:

☐ ***discard 2 weeks*** ***other:*** [X] return


4 ½ inch Span
Deflection = 6 mm at Center
Force Applied at Center
Supported at Each End

Stiffness vs. Temperature

Material	Stiffness - lbf/in	Temp
PT8964	11.12	22°C
PX 234HT/AL-BS	12.68	22°C
PX 223 HT	12.34	22°C
PT8964	5.91	100°C
PX 234HT/AL-BS	4.53	100°C
PX 223 HT	6.37	100°C
PT8964	5.54	120°C
PX 234HT/AL-BS	3.93	120°C
PX 223 HT	2.88	120°C

Highest Stiffness at Room Temperature (22°C): PX 234 HT/AL-BS

Stiffness of the PT8964 is 88% of the PX 234 HT/AL-BS at 22°C

Highest Stiffness at 100°C: PX 223 HT

Stiffness of the PT8964 is 93% of the stiffness of the PX 223 HT at 100°C

Highest Stiffness at 120°C: PT8964

The stiffness of the PT8964 decreases by 6% from 100 C to 120 C while the stiffness of the PX 223 HT decreases by 55% from 100 C to 120 C

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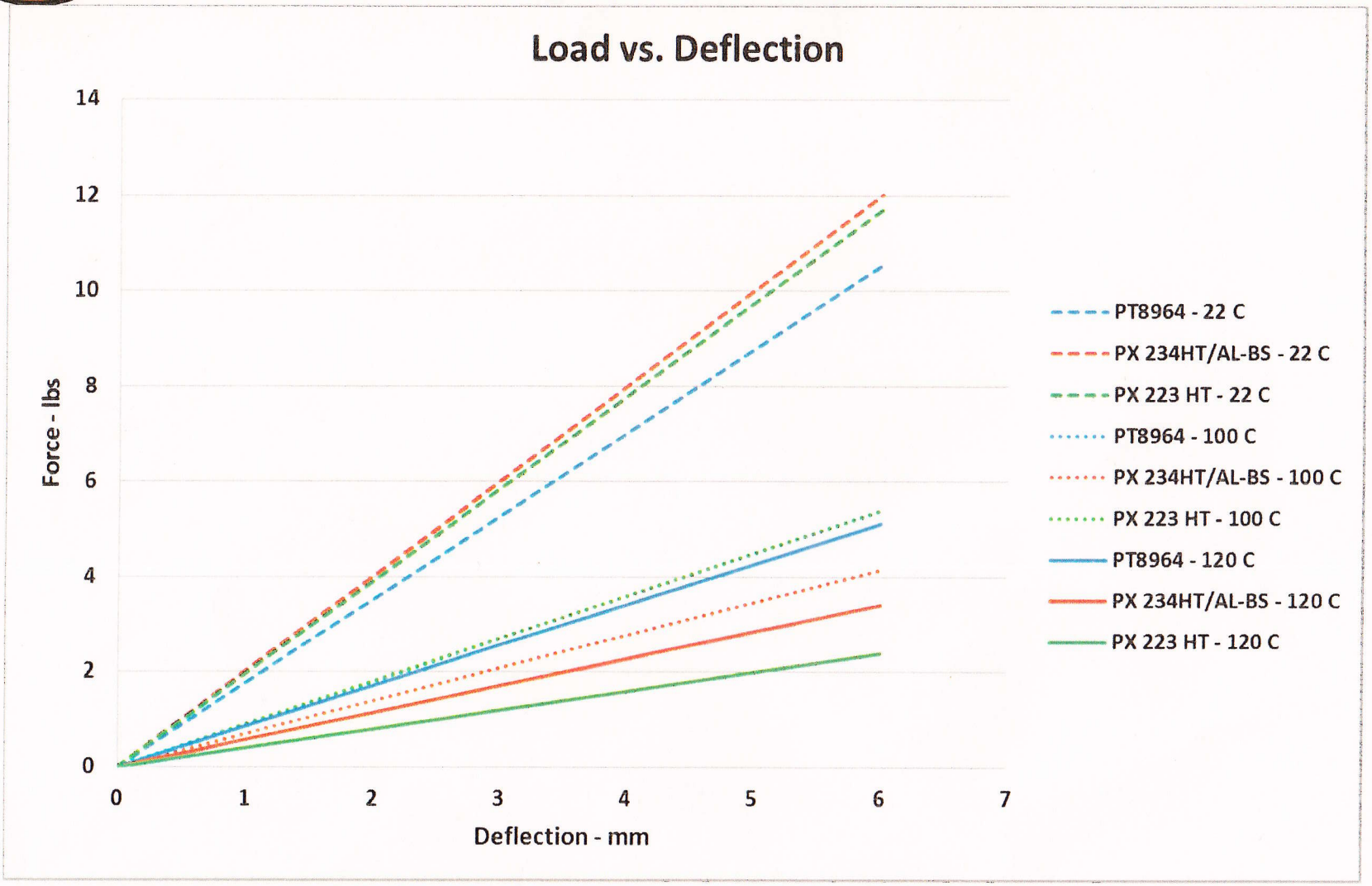
Load / Deflection



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