



*Progressive Engineering Inc.*

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June 7, 2019

Gary Stilwell  
Thor Motor Coach  
701 C.R. 15  
Elkhart, IN 46516

Dear Mr. Stilwell,


In May 2019 one (1) steel plate was delivered to PEI for testing and marked 2019-6174. A sample was cut measuring from the steel plate (see pic), and shipped to Element Materials Technology for ASTM E415 and E1019 testing, to determine the chemical composition of the steel. The steel tested as most similar to 1010 Steel per UNS G10100. See attached test results.



This letter shall hereby serve as proof of chain of custody for the steel samples used in Element Materials Technology test report no. D19051243, and provided to PEI as part of our project no. 2019-6174. ASTM E8-16a Tensile Testing was also performed on these components and was issued earlier.

Please feel free to contact me at (574) 533-0337 ext. 144 or via email at [jholdeman@p-e-i.com](mailto:jholdeman@p-e-i.com).

Sincerely,



Jason R. Holdeman  
Director of Testing



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Laboratory Report - FAR-Controlled Data

Attn: Jason Holdeman  
 Progressive Engineering Inc.  
 58640 State Road 15  
 Goshen, IN 46528

Report No: D19051243  
 Date Reported: 5/29/2019  
 P.O. No: 2019-0332

Material: Steel  
 Reference: 2019-6174  
 Reference P.O. Number: 103877

Description: 1 Sample

Metals Chemistry Results

Element	Results	Method, ASTM
Aluminum	0.037 %	ASTM E415-17/OE
Carbon	0.10 %	ASTM E1019-18/ CO
Sulfur	0.010 %	ASTM E1019-18/ CO
Boron	<0.0005 %	ASTM E415-17/OE
Chromium	<0.05 %	ASTM E415-17/OE
Columbium (Niobium)	<0.008 %	ASTM E415-17/OE
Copper	0.08 %	ASTM E415-17/OE
Iron	Balance	ASTM E415-17/OE
Manganese	0.35 %	ASTM E415-17/OE
Molybdenum	<0.05 %	ASTM E415-17/OE
Nickel	<0.05 %	ASTM E415-17/OE
Phosphorus	0.007 %	ASTM E415-17/OE
Silicon	<0.05 %	ASTM E415-17/OE
Titanium	<0.008 %	ASTM E415-17/OE
Vanadium	<0.008 %	ASTM E415-17/OE

These chemistry results are SIMILAR TO 1010 Steel per UNS G10100.

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Approved by:



Christine Whittard  
 Chemist