



CASCADE STEEL ROLLING MILLS, INC.
 3200 N Highway 99W P.O. Box 687
 McMinnville, Oregon 97128-9399

A **Schnitzer**  Company

January 1, 2018

CERTIFICATE OF COMPLIANCE

As indicated on the Mill Test Reports, I certify that all the manufacturing processes of Cascade Steel Rolling Mills, Inc. occurred in the United States of America. *1

Our reinforcing steel conforms to ASTM A615M-12, Grade 40, 60, 75, or 80 and AASHTO M31-15 as indicated on test reports. The steel shipped is in fact composed of the heats indicated on the Mill Test Report and is represented by results obtained on heat samples tested in accordance with ASTM A615M-12 specifications for sampling, chemical analysis, physical testing and measuring. The average spacing and height of deformations have been measured and found to be in accordance with the requirements of ASTM A615M-12 and AASHTO M31-15 as indicated on the mill test report.

CHEMICAL REQUIREMENTS					
		ASTM A615M-12			
		AASHTO M31-15			
Element Max %	Grade	40	60	75	80
Carbon		n/a	n/a	n/a	n/a
Manganese		n/a	n/a	n/a	n/a
Phosphorus		0.06	0.06	0.06	0.06
Sulfur		n/a	n/a	n/a	n/a
Silicon		n/a	n/a	n/a	n/a
Carbon Equivalent Maximum		n/a	n/a	n/a	n/a

TENSILE REQUIREMENTS					
		ASTM A615M-12			
		AASHTO M31-15			
	Grade	40	60	75	80
Tensile Strength, min, psi [MPa]		60000 [420]	90000 [620]	100000 [690]	105000 [725]
Yield Strength, min, psi [MPa]		40000 [280]	60000 [420]	75000 [520]	80000 [550]
Yield Strength, max, [MPa]		n/a	n/a	n/a	n/a
Elongation in 8 in. [203.2 mm], min %					
Bar Number 3 [10]		11	9	7	7
Bar Numbers 4, 5 [13, 16]		12	9	7	7
Bar Number 6 [19]		12	9	7	7
Bar Numbers 7, 8 [22, 25]			8	7	7
Bar Numbers 9, 10, 11 [29, 32, 36]			7	6	6
Bar Numbers 14, 18 [43, 57]			7	6	6

*1 Certifications which do not indicated made in America are made from steel purchased outside the United States.

Jeff Kramer
 Manager, Quality Assurance
 Cascade Steel Rolling Mills, Inc.