

March 9th, 2020

Mr. Jeremy Jordan
Fortress Railing Products
1720 North First Street
Garland, TX 75040

Re: Structural Connection Details
Fe26 2" & 3" Guard Post to Wood Deck
State of California, United States of America

Jeremy,

Per your request, Eclipse Engineering has reviewed the attached typical details of the Fe26 2" and 3" post connection to a typical wood deck. We find that the details meet or exceed the requirements of the 2019 California Building Code.

We have not reviewed the structural integrity of the decking, structural deck members, or their connections. Eclipse Engineering holds no responsibility for the design of the components of the deck or the global stability of the deck.

If site specific calculations are required, please contact Eclipse Engineering.

Sincerely,
Eclipse Engineering, Inc.



Sushil Shenoy, P.E.
Project Manager



Client: Fortress Railing - 2" Post
 Project: Deck Connection Detail

Input	
Loading=	50 plf
Trib=	5.5 ft
Height=	42 in
Beam Width=	5.5 in
Screw Diameter=	0.25 in
Screw Withdrawal Capacity=	166 lb/in
Tensile Strength of Screw=	1165 lb/in
Moment Couple Distance=	3.45 in
Number of Screws=	3
Duration Factor (Cd)	1.6 (Ten Min.)
Screw Embedment=	5 in

Output	
Minimum Edge Distance (3 x Diameter)=	0.75 in
Max Moment (Trib x Loading x Height)=	11550 lb-in
Withdrawal Resistance Required=	3347.826 lb
Withdrawal Resistance Provided=	3984
PASS/FAIL for Withdrawal=	PASS
Tensile Strength Required=	3347.826
Tensile Strength Provided=	3495
PASS/FAIL for Tensile Strength=	PASS

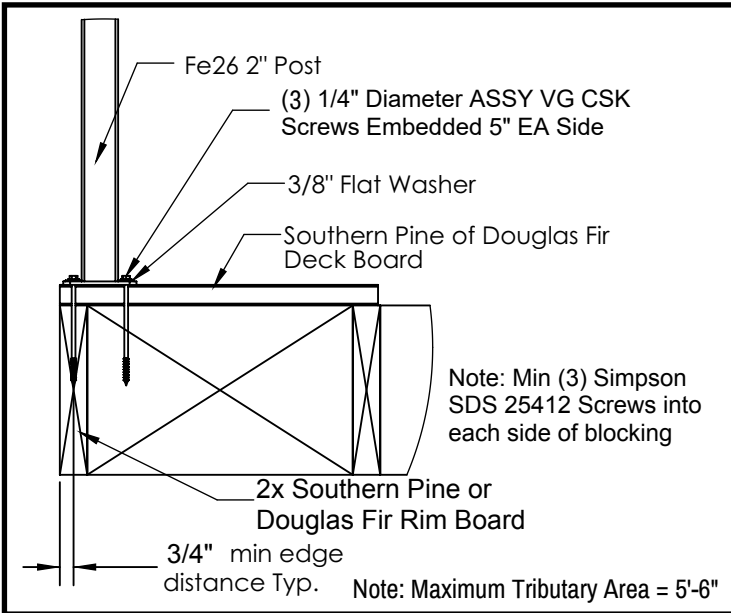
Client:	Fortress Railing - 3" Post
Project:	Deck Connection Detail

Input	
Loading=	50 plf
Trib=	9.5 ft
Height=	42 in
Beam Width=	5.5 in
Screw Diameter=	0.25 in
Screw Withdrawal Capacity=	166 lb/in
Tensile Strength of Screw=	1165 lb/in
Number of Screws=	4
Moment Couple Distance=	4.5 in
Duration Factor (Cd)	1.6 (Ten Min)
Screw Embedment=	5 in

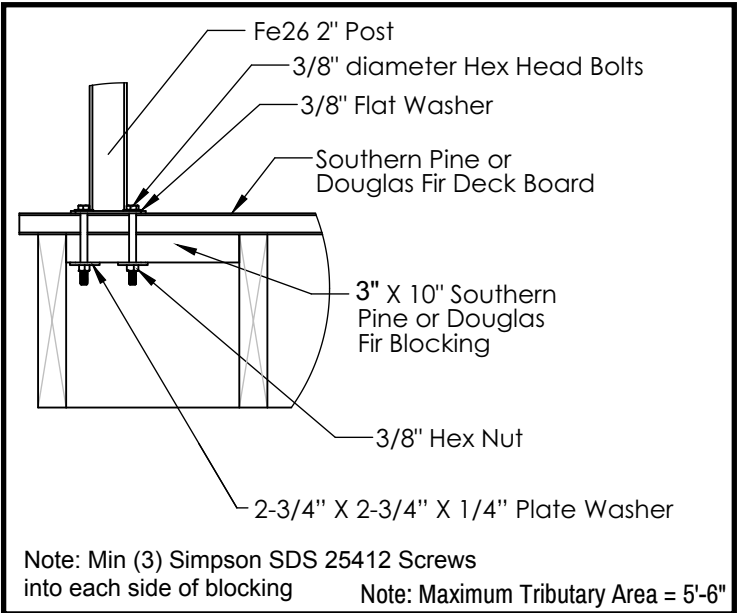
Output	
Minimum Edge Distance (3 x Diameter)=	0.75 in
Max Moment (Trib x Loading x Height)=	19950 lb-in
Withdrawal Resistance Required=	4433.3333 lb
Withdrawal Resistance Provided=	5312
PASS/FAIL for Withdrawal=	PASS
Tensile Strength Required=	4433
Tensile Strength Provided=	4660
PASS/FAIL for Tensile Strength=	PASS

Acceptable Fortress Railing Fe²⁶ 2" Post and Guardrail Mounting Applications in CA

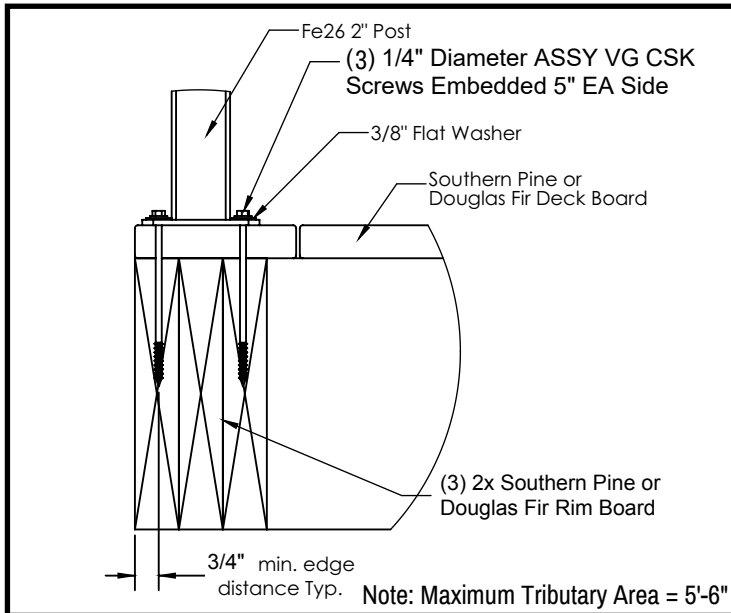
Fe²⁶ 2 Inch Post Top Mount To Southern Yellow Pine or Douglas Fir-Larch Joist Mounted Parallel



Fe²⁶ 2 Inch Post with through bolt & washers on bottom



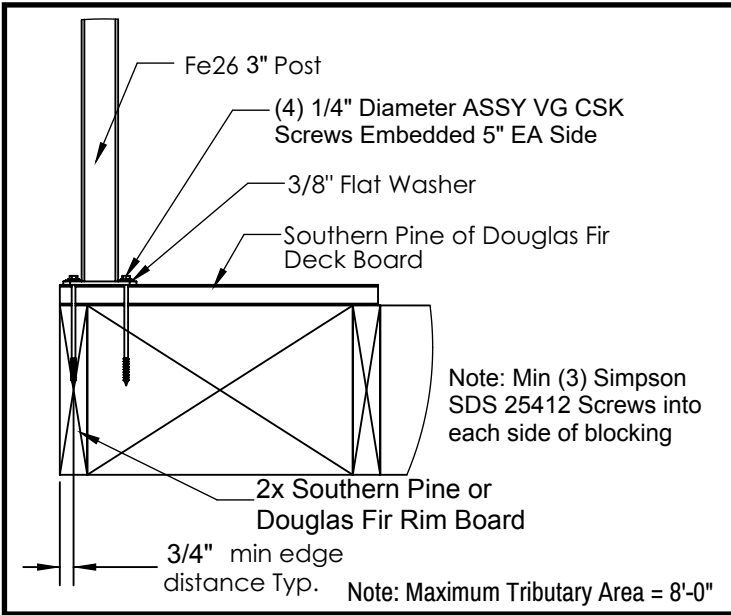
Fe²⁶ 2 Inch Post Top Mount To Southern Pine or Douglas Fir-Larch Joist Mounted Perpendicular



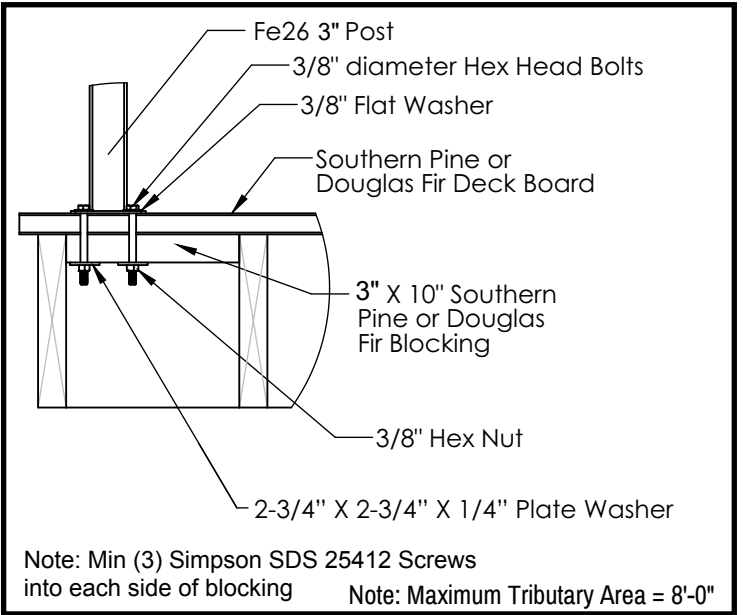
Note: "Fortress Railing Products has only designed the connection from the railing to the deck and is not responsible for the design of the deck itself"

Acceptable Fortress Railing Fe²⁶ 3" Post and Guardrail Mounting Applications in CA

**Fe²⁶ 3 Inch Post Top Mount To Southern Yellow Pine
 or Douglas Fir-Larch Joist Mounted Parallel**



Fe²⁶ 3 Inch Post with through bolt & washers on bottom



Note: "Fortress Railing Products has only designed the connection from the railing to the deck and is not responsible for the design of the deck itself"