

DO KIM & ASSOCIATES, LLC
CONSULTING STRUCTURAL ENGINEERS

Florida Board of Engineers Certificate of Authorization No. 26887

Product Evaluation Report

Date: April 16, 2025

Florida Product Approval: **#FL 46992-R1**

Product Category: Structural Components

Product sub-category: Engineered Lumber

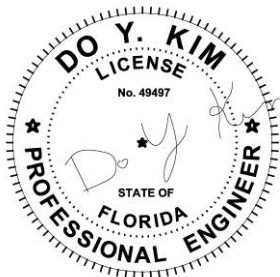
Product Name: SilvaPost™

Manufacturer: WELCO Lumber Corp.-SilvaStar
4395 Curtis Road
Bellingham, WA 98226
(778) 292-5671
Welcolumber.com | silvastar.com

Scope:

This product evaluation report issued by Do Kim & Associates, LLC and Do Kim, P.E. for WELCO Lumber Corp. - SilvaStar is based on Florida Department of Business and Professional Regulation Rule 61G20-3.005 Method (1) (d) of the State of Florida Product Approval. Re-evaluation of this product shall be required following pertinent Florida Building Code modifications or updates.

Do Kim & Associates, LLC and Do Kim, P.E. do not have nor will acquire financial interest in the company manufacturing or distributing the product or in any other entity involved in the approval process of the product named herein. This product has been evaluated for use in locations adhering to the Florida Building Code 8th Edition (FBC).



Do Y Kim

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Do Kim, P.E.
FL #49497

Product Report

- Product Evaluated
 - a. SilvaPost™ certified post for use indoors or outdoors. SPF Finger Jointed and/or edge glued and laminated structural posts.

- Product Description and Materials
 - a. SilvaPost™ is manufactured by Herbert Handlos GmbH at its facilities in Schulstraße 20, A-4284 Tragwein, Austria.
 - b. This product is sold and distributed in the U.S.A. by WELCO Lumber Corp.-SilvaStar.
 - c. The product is made from rough sawn spruce/fir (GL 24h bis 32h), pine and larch (GL 24h, 28h) in accordance to EN1194 (US equivalent standard ASTM D3737). Short segments of lumber are assembled with tongue and groove joints and the length of the members and finger joints across the width of the members.
 - d. All joints and laminations are adhered with AkzoNobel Adhesives' MF system 1263/9553 consists of 1263, which is a liquid Melamine resin adhesive, and 9553, which is a liquid hardener. It is a light colored system for laminated beam and finger joints in load bearing timber structures.
 - i. 1263 with hardener 9553 is tested according to ANSI 405 by independent testing facilities. It is approved according to the requirements in ASTM D2559 to be used in products of load-bearing timber structures on Southern yellow pine and Douglas Fir.
 - ii. Adhesive system 1263/9553 is intended for use in the wood working industry, for applications such as laminated beam production according to ANSI A190.1.
 - e. Product Series Sizes
 - i. 4x4 Post (actual 3.5" x 3.5")
 - ii. 6x6 Post (actual 5.25" x 5.25")
 - iii. 8x8 Post (actual 7" x 7")
 - iv. 10x10 Post (actual 9" x 9")
 - v. 12x12 Post (actual 11" x 11")
 - f. Length
 - i. 8 feet, 9 feet, 10 feet, and 12 feet for all post sizes.

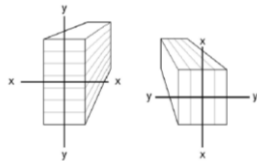
- Applicable Sections and Standards for the 8th Edition Florida Building Code (2023 FBC)
 - a. 2023 FBC
 - i. Chapter 16 Structural Design
 - 1. Section 1604.3.1 Deflections
 - 2. Section 1609.1 Applications
 - 3. Section 1616.3.1 HVHZ Allowable Deflections
 - ii. Chapter 23 Wood
 - 1. Section 2303.1.3 Structural glued-laminated timber.
 - a. Glued-laminated timbers shall be manufactured and identified as required in ANSI/AITC A 190.1 and ASTM D3737.
 - 2. Section 2304.12.2.2 Posts or columns.
 - 3. Section 2304.12.2.3 Supporting member for permanent appurtenances.
 - 4. Section 2304.12.2.4 Laminated timbers.
 - b. ASCE/SEI 7-22 Minimum Design Loads and Associated Criteria for Buildings and other Structures

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- c. ANSI/AWC NDS-2018: National Design Specification (NDS) for Wood Construction
 - d. ANSI 190.1-2017: Standard for Wood Products – Structural Glued Laminated Timber
 - i. Equivalency Standard to EN 14080:2013. Timber structures - Glued laminated timber and glued solid timber – Requirements.
 - e. ASTM D3737-2018: Standard Practice for Establishing Allowable Properties for Structural Glued Laminated Timber (Glulam)
 - i. Equivalency Standard to EN 1194:1999. Timber structures - Glued laminated timber – Strength classes and determination of characteristic values.
 - f. ANSI 405-2018: Standard for Adhesives for Use in Structural Glued Laminated Timber
 - i. Equivalency Standard to EN 301:2017. Adhesives, phenolic and aminoplastic, for load-bearing timber structures – Classification and performance requirements.
- Quality Assurance:
 - a. WELCO Lumber Corp.-SilvaStar has demonstrated compliance of SilvaPost™ structural component products in accordance with the Florida Building Code and Rule 61G20-3.0005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity through Timber Products Inspection, Inc. (FBC Organization ID# QUA1963).
 - Structural Design Properties:

The products have been qualified to meet the combination 22 for softwoods as specified with in the ANSI 117 specification. Furthermore, the products are qualified in accordance with ASTM D3737 for establishing allowable properties for structural glued laminated timber (Glulam).

In accordance with NDS and NDS Supplement design requirements and values, Table 5B.



Modulus of Elasticity

$$E_{axial} = 1,100,000 \text{ psi}$$
$$0.95 E_{axial} = 1,000,000 \text{ psi}$$
$$E_{axial \text{ min}} = 530,000 \text{ psi}$$

Bending

$$E_{x,true} = E_{y,true} = E_{axial}$$
$$E_{x,app} = E_{y,app} = 0.95 E_{axial}$$

Compression Perpendicular to Grain

$$F_{c,perp} = 315 \text{ psi}$$

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Tension Parallel to Grain

$$F_t = 525 \text{ psi (2 or more laminations)}$$

Compression Parallel to Grain

$$F_c = 725 \text{ psi (2 or 3 laminations)}$$

$$F_c = 850 \text{ psi (4 or more laminations)}$$

Bending about Y-Y Axis (Loaded Parallel to Wide Faces of Laminations)

Bending

$$F_{by} = 575 \text{ psi (2 laminations)}$$

$$F_{by} = 700 \text{ psi (3 laminations)}$$

$$F_{by} = 800 \text{ psi (4 or more laminations)}$$

Shear Parallel to Grain

$$F_{vy} = 170 \text{ psi}$$

Bending about X-X Axis (Loaded Perpendicular to Wide Faces of Laminations)

Bending

$$F_{bx} = 725 \text{ psi (2 or more laminations)}$$

Shear Parallel to Grain

$$F_{vx} = 195 \text{ psi}$$

Allowable Column Axial Load Tables

4 x 4 Post (3.5" x 3.5" actual)				
	$F'_c = F \times C_m$	$F'_c = F \times C_d \times C_m$	$F'_c = F \times C_m \times C_p$	$F'_c = F \times C_d \times C_m \times C_p$
	D+L Allowable Tension (lbs)	0.6D+0.6W Allowable Tension (lbs)	D+L Allowable Compression (lbs)	0.6D+0.6W Allowable Compression (lbs)
Height (ft)				
8	5145	8232	3404	5446
9	5145	8232	2779	4446
10	5145	8232	2294	3670
12	5145	8232	1626	2601

6 x 6 Post (5.25" x 5.25" actual)				
	$F'_c = F \times C_m$	$F'_c = F \times C_d \times C_m$	$F'_c = F \times C_m \times C_p$	$F'_c = F \times C_d \times C_m \times C_p$
	D+L Allowable Tension (lbs)	0.6D+0.6W Allowable Tension (lbs)	D+L Allowable Compression (lbs)	0.6D+0.6W Allowable Compression (lbs)
Height (ft)				
8	11576	18522	13677	21883
9	11576	18522	12145	19433
10	11576	18522	10550	16879
12	11576	18522	7842	12547

8 x 8 Post (7" x 7" actual)				
	$F'_c = F \times C_m$	$F'_c = F \times C_d \times C_m$	$F'_c = F \times C_m \times C_p$	$F'_c = F \times C_d \times C_m \times C_p$
	D+L Allowable Tension (lbs)	0.6D+0.6W Allowable Tension (lbs)	D+L Allowable Compression (lbs)	0.6D+0.6W Allowable Compression (lbs)
Height (ft)				
8	20580	32928	27993	44788
9	20580	32928	26929	43086
10	20580	32928	25490	40784
12	20580	32928	21592	34547

Allowable Column Axial Load Tables (continued)

10 x 10 Post (9" x 9" actual)				
	$F'_c = F \times C_m$	$F'_c = F \times C_d \times C_m$	$F'_c = F \times C_m \times C_p$	$F'_c = F \times C_d \times C_m \times C_p$
	D+L Allowable Tension (lbs)	0.6D+0.6W Allowable Tension (lbs)	D+L Allowable Compression (lbs)	0.6D+0.6W Allowable Compression (lbs)
Height (ft)				
8	34020	54432	48269	77231
9	34020	54432	47539	76063
10	34020	54432	46593	74548
12	34020	54432	43795	70071

12 x 12 Post (11" x 11" actual)				
	$F'_c = F \times C_m$	$F'_c = F \times C_d \times C_m$	$F'_c = F \times C_m \times C_p$	$F'_c = F \times C_d \times C_m \times C_p$
	D+L Allowable Tension (lbs)	0.6D+0.6W Allowable Tension (lbs)	D+L Allowable Compression (lbs)	0.6D+0.6W Allowable Compression (lbs)
Height (ft)				
8	50820	81312	73264	117223
9	50820	81312	72667	116267
10	50820	81312	71928	115085
12	50820	81312	69887	111819

Allowable Column Axial Load Tables for 1-HOUR Fire Resistance

4 x 4 Post (3.5" x 3.5" actual)				
	$F'_c = F \times C_m$	$F'_c = F \times C_d \times C_m$	$F'_c = F \times C_m \times C_p$	$F'_c = F \times C_d \times C_m \times C_p$
	D+L Allowable Tension (lbs)	0.6D+0.6W Allowable Tension (lbs)	D+L Allowable Compression (lbs)	0.6D+0.6W Allowable Compression (lbs)
8	4	7	0	0
9	4	7	0	0
10	4	7	0	0
12	4	7	0	0

6 x 6 Post (5.25" x 5.25" actual)				
	$F'_c = F \times C_m$	$F'_c = F \times C_d \times C_m$	$F'_c = F \times C_m \times C_p$	$F'_c = F \times C_d \times C_m \times C_p$
	D+L Allowable Tension (lbs)	0.6D+0.6W Allowable Tension (lbs)	D+L Allowable Compression (lbs)	0.6D+0.6W Allowable Compression (lbs)
8	1143	1830	184	295
9	1143	1830	146	234
10	1143	1830	119	190
12	1143	1830	83	132

8 x 8 Post (7" x 7" actual)				
	$F'_c = F \times C_m$	$F'_c = F \times C_d \times C_m$	$F'_c = F \times C_m \times C_p$	$F'_c = F \times C_d \times C_m \times C_p$
	D+L Allowable Tension (lbs)	0.6D+0.6W Allowable Tension (lbs)	D+L Allowable Compression (lbs)	0.6D+0.6W Allowable Compression (lbs)
8	4855	7768	3125	5000
9	4855	7768	2523	4037
10	4855	7768	2070	3313
12	4855	7768	1459	2334

Allowable Column Axial Load Tables for 1-HOUR Fire Resistance (continued)

10 x 10 Post (9" x 9" actual)				
	$F'_c = F \times C_m$	$F'_c = F \times C_d \times C_m$	$F'_c = F \times C_m \times C_p$	$F'_c = F \times C_d \times C_m \times C_p$
	D+L Allowable Tension (lbs)	0.6D+0.6W Allowable Tension (lbs)	D+L Allowable Compression (lbs)	0.6D+0.6W Allowable Compression (lbs)
8	12247	19596	14792	23668
9	12247	19596	13272	21235
10	12247	19596	11622	18595
12	12247	19596	8711	13938

12 x 12 Post (11" x 11" actual)				
	$F'_c = F \times C_m$	$F'_c = F \times C_d \times C_m$	$F'_c = F \times C_m \times C_p$	$F'_c = F \times C_d \times C_m \times C_p$
	D+L Allowable Tension (lbs)	0.6D+0.6W Allowable Tension (lbs)	D+L Allowable Compression (lbs)	0.6D+0.6W Allowable Compression (lbs)
8	22999	36799	31689	50702
9	22999	36799	30720	49153
10	22999	36799	29410	47057
12	22999	36799	25659	41055

Product Labeling



- Labeling provided by the European manufacturer Herbert Handlos GesmbH located in:
Schulstrasse 20
4284 Tragwein, Austria
- The licensed domestic (North America) distributor is:
WELCO Lumber Corp.-SilvaStar
4395 Curtis Road
Bellingham, WA 98226
(778) 292-5671
Welcolumber.com | silvastar.com
- 1359 – CPR – 0634 (2015) is the certification issued by HFA (European certification agency) based in Holzforschung, Austria.

Equivalency of FBC standards:

- 8th Edition FBC: Section 2303.1.3 Structural glued-laminated timber.
 - Glued-laminated timbers shall be manufactured and identified as required in ANSI/AITC A 190.1 and ASTM D3737.
- EN 14080:2013 standard used to evaluate this product is equivalent with the prescribed standard ANSI 190.1-17 and adopted by the Florida Building Code 8th Edition (2023).
- EN 301:2017 standard used to evaluate this product is equivalent with the prescribed standard ANSI 405-2018 and adopted by the Florida Building Code 8th Edition (2023).
- EN 1194:1999 standard used to evaluate this product is equivalent with the prescribed standard ASTM D3737 and adopted by the Florida Building Code 8th Edition (2023).

Limitations and Condition of Use

1. This product has been designed and tested in accordance to the Florida Building Code 8th Edition (FBC).
2. No missile impact resistance testing has been conducted.
3. Design parameters for load tables are for residential construction (Risk Category II) and assumed to be exposed to outdoor ambient humidity for site conditions.
4. Product allowable axial load column calculations are based on pinned supports at the top and bottom, Case 2 of Euler buckling analysis. The design professional or end user shall develop end connection details to be consistent with the support conditions as specified. Any deviation from this case, the design professional or end user shall take into consideration the effects to the allowable loads as listed.
5. This product is manufactured to be used as light structural framing for load-bearing and non-load bearing conditions. The load tables do not take into account combined bending loads/stresses and the design professional shall take into account perpendicular loads and bending stresses that may be imposed on the product.
6. Load tables are based on these products for use for the design of veranda/patio columns in the coastal regions of the Southeastern United States. The timbers are intended for normal temperature service conditions ($\leq 100^{\circ}\text{F}$). The moisture content of the glulam in use is assumed to be more than the 19% moisture content due to design conditions for Florida and during high wind design event conditions. The reduction factor, C_m , has been factored in the load tables.
7. Allowable design loads shall be determined by site conditions and the above structural properties in accordance with accepted structural analysis practices and applicable codes and standards. Timbers are limited solely to the sizes and lengths specified in this Product Approval Evaluation Documents. However, a licensed design professional may design and specify this product that goes beyond the scope of this document for site specific engineering.
8. The use of each product shall be in strict accordance with its Product Approval Evaluation Documents.
9. Fire-resistance of this product is outside the scope of Rule 61G20-3 and is therefore not included in this evaluation.
10. Deflection limits and allowable spans per Product Approval Evaluation Documents are in accordance with L/120 in non-HVHZ per Chapter 16 Table 1604.3 deflection limits. Deflection limits and allowable spans per Product Approval Evaluation Documents are in accordance with L/180 in HVHZ per Chapter 16 Section 1616.3.1 deflection limits.
11. All supporting host structures shall be designed to resist all superimposed loads.
12. All components which are permanently installed shall be protected against corrosion, contamination, and other such damage.
