VINTAGE WOODS
AUTHENTIC • ORGANIC

PRODUCT FEATURES
OF HEAT MODIFIED WOODS

MOISTURE RESISTANT	Thermal modification process removes all sugars and resins from the wood, which is partly what causes the wood to rot and decay. The resins and sugars are "cooked" off by longer term exposure to heat, 40 hours. During the thermal modification process the cellular structure of the wood is actually burned or fused together. This causes the wood to be impervious to any further moisture entering it. The wood, upon completion of the process, has approximately 5.5% moisture and will not absorb any more.
INSECT RESISTANT	The same process that stops rotting and decay in the wood, also makes the wood resistant to insects. With no "food source" left in the wood, the insects will not feed.
DIMENSIONALLY STABLE	Because HM Woods can not absorb more water the wood becomes very dimensionally stable. Water can cause wood to grow or shrink depending on the moisture content. HM Woods maintains its dimensions and shape even after installation.
HIGH STRENGTH	Because no chemicals are used in the processing of HM Woods, the inherent strength of the original material is relatively left intact. HM Woods is created from natural Southern Yellow Pine, one of the strongest woods available.
LIGHT WEIGHT	HM Woods is extremely light weight in comparison to other natural woods. The lack of moisture, resins, and sugars makes for a light weight material
RESISTANT TO WARPING & TWISTING	Once again, the inability of HM Woods to absorb water helps it resist the warping, twisting and cupping normally associated with natural wood. HM Woods is created through a thermal modification process that does not use any chemicals. Only heat and steam are applied to the wood. The natural wood is only modified, nothing is added, only removed.
CHEMICALLY FREE ENVIRONMENTALLY SAFE	Because HM Woods contains no harmful chemicals it can be disposed of in the same manner as any untreated wood, such as, disposal in landfills, use as mulch, campfires, or waste burning, etc.
WEATHER RESISTANT	HM Woods is only affected by ultraviolet light from the sun and it only changes the color of the wood. HM Woods begins as a natural warm brown color and when exposed to sunlight will turn a soft gray color. Other than changing colors the weather and causing some minor surface checking, the sun has little or no effect on the material
STAINABLE & PAINTABLE	HM Woods can be stained or painted, but only with products provided by HM Woods. Because the material will not absorb any more moisture, any water based stains or paints will not penetrate the wood.
NON HAZARDOUS TO HUMANS	Again HM Woods is chemically free and poses no potential harm to humans or animals. No protective clothing is needed. Normal safety protocols need to be used when working with any power tools.
SUPERIOR WORKABILITY	HM Woods is a natural wood and as such can be handled and utilized in the same manner as any wood material. In fact because of the low moisture content the material cuts and works better than most wood. Normal saws, routers and other wood working equipment can be utilized with the wood without problem.
SUSTAINABLE	All HM Woods is processed from U.S. grown Southern Yellow Pine. Wood grown in the U.S. is harvested from sustainable forests. Trees are harvested and replanted all of which is overseen by the U.S. government.

SECTION 06 19 10

THERMALLY TREATED WOOD

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included: Provide thermally treated wood, nails, bolts, screws, framing anchors and other hardware needed to perform carpentry for a complete and proper installation.

1.2 REFERENCES

1. ASTM A36: Standard Specification for Carbon Structural Steel.
2. AASTM A307: Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength.

2 ASTM DI 43: Standard Test Methods for Small Clear Specimens of Timber.

3. ASTM D2017: Standard Test Method of Accelerated Laboratory Test of Natural Decay Resistance of Woods.
4. ASTM D6866: Standard Test Methods for Determining the Biobased Content of Solid, Liquid, and Gaseous Samples Using Radiocarbon Analysis.
5. ASTM E72: Standard Test Methods of Conducting Strength Tests of Panels for Building Construction.
6. United States Department of Agriculture (USDA) BioPrefe1Ted Program as authorized by the Fann Security and Rural Investment Act of 2002.
7. West Coast Lumber Inspection Bureau's Standard No. 17 Grading Rules, revised January l, 2004, www.wclib.org.
8. "Product Use Manual" of the Western Wood Products Association, www.wwpa.org.
9. www.greenspec.com
10. FF-B-561B: Federal Specification for Bolts, (Screw), Lag.
11. FF-N-105B: Federal Specification - Nails, Brads, Staples, and Spikes: Wire, Cut and Wrought.

1.3 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Codes and standards:

l. In addition to complying with pertinent codes and regulations of governmental agencies having jurisdiction, unless otherwise specifically directed or permitted by the Engineer comply with:

a. "Product Use Manual" of the Western Wood Products Association for selection and use of products included in that manual; b, "USDA Certified Biobased Product" of the USDA's BioPreffered Program; certified by independent testing laboratory as 100% biobased content.

1.3 PRODUCT HANDLING

A. Protection:
1. Deliver the materials to the job site and store, in a safe area, out of the way of traffic, and shored up off the ground surface.
2. Identify lumber as to grades and store each grade separately from other grades.
3. Protect metals with adequate waterproof outer wrapping.
4. Use extreme care in offloading of lumber to prevent damage, splitting and breaking of material.
5. Cover material to keep dry for handling.

PART 2 - PRODUCTS

2.1 SOURCE WOOD

A. All source wood shall meet the following requirements:
1. Meet the requirements for Grade Wood, in conformance with the West Coast Lumber Inspection Bureau, unless otherwise approved in advance by the Engineer.
2. Harvested from domestic, sustainable, renewable U.S. Forests.
3. The following species of wood are acceptable:
   i. Softwood:
      a. Douglas Fir
      b. Southern Pine
      c. Spruce
      d. Hemock
   ii. Hardwood:
      a. Hickory
      b. Oak
      c. Ash
      d. Cherry
      e. Poplar
      f. Walnut

B. Identify all materials of this Section by the appropriate grade and certification stamp of the agency specified or approved in advance by the Engineer.

2.2 MATERIALS

A. Thermally treat all wood using a patented, three phase process.
1. Thermally treat all wood using a three-phase process.
   i. Phase 1: Increase temperature using heat and steam. Temperature increased rapidly to approximately 100 degrees C. Temperature continues to increase steadily to 130 degrees C to decrease to moisture content of the wood to nearly zero.
   ii. Phase II: Temperature increases to between 185 degrees C to 215 degrees C. Temperature is maintained for approximately 2-3 hours.
   iii. Phase III: Wood is cooled using water spray. At 80-90 degrees C, woods moisture is increased to 4-7 percent

B Provide materials in the quantities needed for the Work, and meeting or exceeding the following standards of quality:

Standard	Test	Results
ASTM D143	Modulus of Elasticity	No significant changes from untreated wood
ASTM D143	Modulus of Rupture	No more than a 10 percent reduction compared to untreated wood
ASTM D 6866	Biobased Content	100 percent minimum
ASTM E72	Ave. Ultimate Pressure	600 psf minimum

C. Wood preservative: Chemical wood preservative is not acceptable.

D. Hardware:

1. Steel items:
   - i. Comply with ASTM A36.
   - ii. Use galvanized at exterior locations.
     - a. Machine bolts: Comply with ASTM A307
     - b. Lag Bolts: Comply with Fed Spec FF-B-561B
     - c. Nails:
       - (1) Use common except as otherwise noted.
       - (2) Comply with Fed spec FF-N-105B.
       - (3) Use galvanized at exterior locations.

2.3 OTHER MATERIALS

A. Provide other manufacturer approved materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Engineer.

2.4 MANUFACTURERS

A. Provide wood manufactured by:

- Vintage Woods, Inc. Gypsum, CO 970-524-4041; www.vintagewoodsus.com

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 DELIVERIES

A. Stockpile materials sufficiently in advance of need to assure their availability in a timely manner for this Work.

B. Cover or protect stored material from weather for handling purposes and to prevent uneven fading from ultraviolet light.

C. Make as many trips to the job site as are needed to deliver materials of this Section in a timely manner to ensure orderly progress of the Work.

3.3 COMPLIANCE

A. Do not permit materials not complying with the provisions of this section to be brought onto or to be stored at the job site.

B. Promptly remove non-complying materials from the job site and replace with materials meeting the requirements of this Section.

3.4 WORKMANSHIP

A. Produce joints which are tight, true and well nailed, with members assembled in accordance with the Drawings and with pertinent codes and regulations.

1. Sawcut all wood to provide a 1/16" to 1/8" gap to accommodate potential swelling.

B. Selection of lumber pieces:

1. Carefully select the members.
2. Cut out and discard defects which render a piece unable to serve its intended function.
3. Lumber may be rejected by the Engineer, whether or not it has been installed, for excessive warp, twist, bow, crook, mildew, fungus or mold as well as for improper cutting and fitting.

C. Saw cut wood as required for the Work. No special provisions for cutting or working the wood are necessary.

D. Do not shim any framing component.

E. Comply with the provisions of the Product Use Manual.

3.5 FASTENINGS

A. Nailing:

1. Use only common wire nails or spikes of the dimension shown on the nailing schedule, except where otherwise specifically noted on the Drawings.

2. For conditions not covered in the nailing schedule provide penetration into the piece receiving the point of not less than one half (1/2) the length of the nail or spike, provided, however, that 16d nails may be used to connect two pieces of two (2) inch

(nominal).

3. Nail without splitting wood.

4. Prebore as required.

5. Remove split members and replace with members complying with the specified requirements.

B. Bolting:

1. Drill holes one sixteenth (1/16) inch larger in diameter than the bolts being used.

2. Drill straight and true from one side only.

3. Do not bear bolts threads on wood. Use washers under head and nut where both bear on wood and use washers under all nuts.

c. Screws:

1. For lag screws and wood screws, prebore holes same diameter as root of threads, enlarging holes to shank diameter for length of shank.

END OF SECTION

VINTAGE WOODS
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COMPARATIVE ANALYSIS
HEAT TREATED WOOD
VS. CHEMICALLY TREATED WOOD

CHEMICALLY TREATED WOOD	HEAT TREATED WOOD
The following statements are found in literature provided by most manufacturers of treated lumber and also can be found on the EPA website for treated lumber. Chemical treatments as listed by the EPA are Chromate Copper Arsenate (CCA), Ammoniacal Copper Arsenate (ACA)I & Ammoniacal Copper Zinc Arsenate (ACZA).	The following items are the corresponding safety and general information about thermally modified wood called Vintage Woods. This information can be found in the literature and publications of the company.
Use hot-dip galvanized or other fasteners as recommended by building codes Treated lumber actually increases the corrosion cycle in all metal fasteners	Hot-dipped galvanized fasteners are specified by the building code because the building code has recognized the corrosive nature of the chemicals used in treated lumber. Vintage Woods has no such chemicals and as such will not directly cause an increase in the corrosion of the fastener.
Do not burn preserved wood.	Vintage Woods gives off no toxic fumes when it is burned because no chemicals have been added to it.
Wear a dust mask and goggles when cutting or sanding wood	Dust mask and goggles are always recommended when cutting any kind of wood, but if Vintage Woods dust should get in the eyes or mouth there are no harmful chemicals.
Some preservative may migrate from the treated wood into soil/ water or may dislodge from the treated wood surface upon contact with skin. Wash exposed skin areas thoroughly.	There are no chemicals in Vintage Woods and as such nothing can or will migrate into the surrounding soil or water. Exposure to skin will have no effect unless there is specific personal allergy.
All sawdust and construction debris should be cleaned up and disposed of after construction according to local and EPA guidelines.	Vintage Woods products contain no hazardous chemicals.
Wash work clothes separately from other household clothing before reuse.	Any contamination to work clothing will cause no issues and all clothing can be washed together without concern.
Preserved wood should not be used where it may be in direct or indirect contact with drinking water, except for uses involving incidental contact such as freshwater docks and bridges.	Direct contact with any human food or water should be of no concern except for normal environmental dust and debris. No chemicals have been used in making Vintage Woods.
Do not use preserved wood under circumstances where the preservative may become a component of food, animal feed or beehives.	Vintage Woods can be used in any application where natural wood such as cedar would be used.
Do not use preserved wood as mulch due to toxic chemicals.	Vintage Woods can be ground and used as mulch if desired
Only preserved wood that is visibly clean and free of surface residue should be used for patios, decks and walkways.	This is true of any wood or manufactured product, but in the case of treated lumber this is referring specifically to excess chemicals on the wood. Vintage Woods uses no chemicals.
Aluminum contact is not recommended when treated wood products are immersed in water or are subject to frequent and prolonged wetting or other severe exposure conditions. In such cases, moisture resistant protective barrier should be placed between the aluminum products and treated wood.	Vintage Woods will not cause corrosion in aluminum and can be placed in direct contact with or without moisture present. Without the presence of chemicals only the water will react to metal components. Vintage Woods will not enhance or diminish the corrosions process.
Aluminum contact is not recommended when treated wood products are immersed in water or are subject to frequent and prolonged wetting or other severe exposure conditions. In such cases, moisture resistant protective barrier should be placed between the aluminum products and treated wood.	Vintage Woods will not cause corrosion in aluminum and can be placed in direct contact with or without moisture present. Without the presence of chemicals only the water will react to metal components. Vintage Woods will not enhance or diminish the corrosions process.
If the wood is to be used in an interior application and becomes wet during construction, it should be allowed to dry before being covered or enclosed.	All wood should be dried before being used inside or covered, but with Vintage Woods the chances of moisture absorption are extremely low and so less likely to cause problems.
Mold growth can and does occur on the surface treated lumber during prolonged surface exposure to excessive moisture conditions.	Vintage Woods resists mold growth. Excessive moisture will not cause any problems with Vintage Woods.
Treated lumber should not be burned in open fires or in stoves, fireplaces or residential boilers due to toxic chemical	Vintage Woods can be burned in open or closed fires and gives off no toxic fumes.

International Accreditation Service

CERTIFICATE OF ACCREDITATION

This is to signify that

PROGRESSIVE ENGINEERING, INC.
58640 STATE ROAD 15
GOSHEN, INDIANA 46528

Testing Laboratory TL-178
(Revised February 10, 2011)

has met the requirements of the IAS Accreditation Criteria for Testing Laboratories (AC89), has demonstrated compliance with ANS/ISO/IEC Standard 17025:2005, *General criteria for the competence of testing and calibration laboratories*, and has been accredited, commencing July 20, 2009, for the test methods listed in the approved scope of accreditation.

Patrick V. McCullen
Vice President

C. P. Ramani, P.E.
President

ACCREDITED

(see attached scope of accreditation for fields of testing and accredited test methods)

Print Date: 03/22/2011

International Accreditation Service

SCOPE OF ACCREDITATION

Progressive Engineering, Inc. TL-178
(Revised February 10, 2011)

FIELDS OF TESTING	ACCREDITED TEST METHODS
Deck board and guard rail systems	ASTM Standards D 638, D 790, D 6109 (Method A only), D 7031, D 7032, G 154 and G 155; AAMA 306 (except Sections 5.2, 5.3 and 5.5); Test methods referenced in Section 3.0 of ICC-ES Acceptance Criteria AC174 (except Sections 3.9 and 3.10), AC273 Section 4.0, AC335 Section 3.0 and AC344 Section 3.0
Furniture testing	ASTM Standard F 1561
Vehicle safety and ambulance testing	49 CFR 571 Federal Motor Vehicle Safety Standards (FMVSS) 206, 207, 210, 216, 217, 220, 221, 222 (limited to Section S5.4, S6.1, S6.2, and S6.3), 302, and 403; Ambulance Manufacturers Division (AMD) Standards No. 001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013 (Limitation: Maximum of 10,000 lb per axle), 014, 015, 016, 017, 018, 019, 020, 021, 022, 024, and 025; KKK-A-1822F Inspections
Structural testing	ASTM Standard E 2126

July 20, 2009
Commencement Date

ACCREDITED

C. P. Ramani, P.E.
President

Print Date: 03/22/2011