

PRODUCT GUIDE

FrameGuard®

MOLD & DECAY
PROTECTION



FRAMEGUARD® TOTAL™ WOOD

PROTECTION FROM THE GROUND UP

FrameGuard® Total™ mold-resistant wood provides protection against mold, termites, and fungal decay in trusses, framing, OSB, SIPs, and other wood products used in interior applications. With appropriate topcoating, this wood can also be used for exterior trim.

It is treated with a blend of anti-mold and preservative chemicals. This water-based combination of EPA-registered, active components provides a broad spectrum of protection: the borate component is effective against decay and termite damage while the fungicides protect against mold. Furthermore, FrameGuard® Total™ treatment includes an additional insecticide, not part of the original FrameGuard® formulation, which protects against Formosan termites.

By using FrameGuard® wood, homeowners get a mold-resistant product and greater peace of mind, while builders and specifiers reduce their exposure to costly liability claims.



Suitable for Many Wood Products

FrameGuard® treatment was designed to provide protection to wood products, such as

- Framing & Truss Lumber
- Plywood Panels
- Engineered Wood Products
- Oriented Strand Board (OSB)
- Parallel Strand Lumber
- Laminated Veneer Lumber
- Wood I-Beams
- Structural Insulated Panels
- Exterior Trim

FrameGuard® wood is suitable for single-family, multi-family, and commercial construction projects.

FrameGuard® treated wood is not intended for use as internal sill plate or for any other application where pressure-treated wood is required.

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ADVANTAGES OF FRAMEGUARD® TOTAL™ MOLD-RESISTANT WOOD

- Treated with anti-mold and preservative chemicals to protect against:
 - mold
 - termites (including Formosan termites)
 - fungal decay
- Reduces complaints and costly liability claims
- Protects wood without releasing harmful levels of emissions into the building
- Backed by a limited warranty
- EPA-registered active ingredients
- Treatment applied under controlled conditions, not at job site
- Developed and backed by a global leader in wood protection
- Identified by a green colorant
- GreenSpec® environmentally preferable product



GO GREEN!

You will know FrameGuard® wood when you see it. A distinctive green colorant identifies wood treated with FrameGuard® coating.

Engineered wood products, such as these Structural Insulated Panels (SIPs), can be protected by the FrameGuard® treatment.

OFFERING A HOST OF ENVIRONMENTAL BENEFITS

Not only is FrameGuard® Total™ wood green in color (due to a colorant added to make the product easily identifiable), it's green from an environmental perspective, too.

By enabling wood to last a long time and resist mold, FrameGuard® wood extends forest resources and reduces the need for replacement lumber. Plus, FrameGuard® wood offers a host of environmental advantages associated with wood itself:

- It is made from plentiful species of wood, the only major building product that is a renewable resource.
- The trees come from managed timberlands where they grow rather rapidly. They are replenished in as little as two decades' time.
- The collection and processing of this resource uses less energy than that required for production of alternative materials.
- Growing trees absorb carbon dioxide and wood products store carbon, thereby reducing greenhouse gases.
- Wood provides noteworthy insulation with regard to heat, noise, and electrical current.
- A study by the Consortium for Research on Renewable Industrial Materials (CORRIM) found wood framed homes more environmentally friendly than steel or concrete. Total energy in the completed steel-frame house was 17% greater, and the concrete-framed house was 16% greater, than the completed wood-frame house.



FrameGuard® treatment keeps lumber looking cleaner and brighter during storage, construction, and beyond. This is especially important to truss and component manufacturers whose end products tend to be exposed to the elements longer than other framing materials.



There is only one chance to install mold-resistant wood: when the home is built. The FrameGuard® treatment prevents mold growth and thus reduces airborne mold spores.



When appropriately primed and coated, FrameGuard® Total™ wood is a beneficial choice for exterior trim.

RECOGNIZED FOR ITS GREEN CHARACTERISTICS



Selected for the GreenSpec® directory of environmentally preferable products. See www.GreenSpec.com.

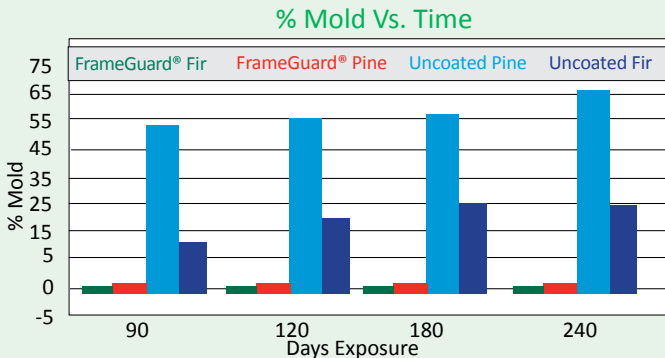
TECHNICAL DATA

HOW IT WORKS

FrameGuard® Total™ wood is protected with anti-mold fungicides and preservative compounds. The fungicides remain close to the surface to provide protection against mold. Moldicides inhibit mold's ability to break down the wood and consume the sugars and starches mold needs for growth; thus, wood becomes unattractive as a food source. Meanwhile the borate component penetrates into wood providing protection against both decay and insects, and imidacloprid insecticide enables wood to resist damage from Formosan termites.

MOLD PROTECTION

A field study comparing FrameGuard® treated wood samples and uncoated controls has demonstrated the effectiveness of the protection. Exposed to the elements (not shielded from weather as in actual use) in the demanding environment of Ft. Myers, Fla., the test samples showed that FrameGuard® treatment provided excellent protection against mold growth on both southern pine and spruce/pine/fir.



After one year and 76.3" of rainfall, there was significantly less growth of mold on corresponding samples of FrameGuard® wood. Weather-shielded samples of FrameGuard® wood had virtually no mold after the year's test.

Another mold study, conducted by an independent firm, tested various alternatives and revealed the superiority of FrameGuard® wood. A copy of the report is available from Lonza Wood Protection.



STRENGTH PROPERTIES

A test conducted by Timber Products Inspection showed that FrameGuard® treatment has no significant effect on strength of lumber and other wood products. FrameGuard® wood exhibits strength properties comparable to those of untreated wood of the same size, species, grade, and moisture content.

	Orientation 1	Orientation 2	Orientation 3	Overall Average
Before Treatment	2.15	2.12	2.14	2.14
After Treatment	2.14	2.11	2.14	2.13

An independent agency, Timber Products Inspection, performed E computer testing on 50 samples of 2x4 southern pine, before and after coating with FrameGuard solution. The results indicated no significant difference in strength values from the coating.

FASTENERS

Two separate tests, one conducted in accordance with AWWA E12 procedures using metal coupons and the other involving actual metal truss plates, showed comparable corrosion levels for FrameGuard® wood and untreated controls. Specify the same hardware as you would for use with ordinary wood.

AWWA E12 Corrosion Test*

120°F and 90% Relative Humidity • Loss in Mills per Year

Metal	30-day		60-day	
	Control	Treated	Control	Treated
Aluminum 2024	0.0	0.1	0.0	0.1
Carbon Steel 1010	0.0	0.2	0.0	0.3
Standard hot-dip galvanized	0.6	0.3	0.4	0.3
G 90 electroplated	0.3	0.7	0.9	1.2

* Standard exposure is 10-15 days

PLATE HOLDING STRENGTH

In lateral resistance/tooth holding tests conducted by MiTek Industries, Inc., samples of FrameGuard® wood performed with no statistical difference to matched, untreated samples of southern pine and spruce/pine/fir.

ADDITIONAL PRODUCT DATA

APPLICATION OF TREATMENT

To maintain a high level of performance for the treatment, it is applied only under controlled conditions where the quality of coverage can be assured. It is not applied at jobsites, but at facilities such as truss plants, SIP plants, and wood treating plants that have installed suitable spraying or dipping equipment. Because of the diffusion of the treating solution, it is not necessary to field-treat wood exposed by sawing or drilling. Its use does not require a pesticide applicator license.

SAFETY INFORMATION

The active ingredients in FrameGuard® treatment are EPA-registered and are commonly used in various applications. FrameGuard® treatment gives off no airborne particles, has minimal odor, is easy to handle, and for most people poses no health or environmental problems when used correctly.

USE & HANDLING RECOMMENDATIONS

When handling FrameGuard® wood, the same common sense precautions should be taken as with handling untreated wood. Dust masks and eye protection devices are recommended to avoid possible irritation from sawdust and wood chips. Gloves will help to avoid splinters. Hands should be washed after doing construction work.

PAINTING

FrameGuard® treated wood products, including plywood and OSB, can be painted without any bleed-through effect. For best results, use a minimum of one coat of primer and one coat of paint, or two coats of paint. (One coat of paint is not sufficient to prevent bleed-through of the color.) Note: When the surface of FrameGuard® wood is coated with a paint, the surface mold protection is hindered. To retain mold protection, we recommend using a mold-resistant, low VOC paint.



DISPOSAL

FrameGuard® coated wood can be disposed of in ordinary construction and demolition landfills and industrial landfills. Disposal should be in accordance with local, state, and federal guidelines. Do not burn, or use chips or sawdust as mulch.

AVAILABILITY

Contractors can obtain FrameGuard® treated wood from their suppliers of lumber and wood components.

MODEL SPECIFICATION

You will find a model specification on the inside back page of this brochure. For an editable, electronic version, go to www.frameguardwood.com/modelspec.

BUILDING CODES

While the Model Building Codes currently do not require the use of mold resistant wood, green building standards may grant credits for using FrameGuard® wood.

ABOUT THE DEVELOPER

Lonza Wood Protection developed and produces the FrameGuard® treatment. Along with its international affiliates, Lonza Wood Protection manufactures wood preservatives, fire retardants, and anti-sapstain products, and licenses the best known brands of pressure-treated wood in the industry, including Wolmanized® wood and Dricon® fire retardant treated wood. Lonza Wood Protection is a business of Arch Wood Protection, Inc. — a Lonza company.



FRAMEGUARD® TREATED WOOD LIMITED 20-YEAR WARRANTY

What is covered by this Limited Warranty?

Subject to the definitions, terms and conditions set forth in this Limited Warranty, Arch Wood Protection, Inc. ("Warrantor") warrants to Qualified Owners (defined below) FrameGuard® and FrameGuard® Total™ Treated Wood ("Treated Wood") against mold and damage caused by termites or fungal decay.

FrameGuard® Total™ Treated Wood must be used in regions where there is any known or potential Formosan Termite (*Coptotermes formosanus*) activity because FrameGuard® Treated Wood is not warranted against damage from Formosan Termites. Applicable states with reported Formosan termite activity include Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas and California.

Treated Wood is warranted to remain free from surface molds (other than stains in the wood such as blue stain) as follows:

- (1) Prior to use or installation, for a period of 180 days following the date on which the FrameGuard® coating was applied as evidenced by a written statement or marking on the Treated Wood;
- (2) When purchased from a licensed FrameGuard® producer (for a list of authorized producers, visit www.frameguardwood.com), for a period of 180 days following the earliest date on which the first Qualified Owner either took title to or accepted delivery of such Treated Wood and in either case as evidenced by a written receipt or invoice for the purchased product;
- (3) For a period of 20 years following installation, provided that the structure is a Permitted Application.

Treated Wood is warranted for a period of 20 years against damage from decay fungi that would make the wood structurally unfit for the intended application, provided that the structure is a Permitted Application and was Properly Installed.

FrameGuard® Treated Wood is warranted for a period of 20 years against damage from termites (except for Formosan termites) that would make the Treated Wood structurally unfit for the intended application, provided that the structure is a Permitted Application, was Properly Installed and was Properly Maintained during the warranty period.

FrameGuard® Total™ Treated Wood is warranted for a period of 20 years against damage from termites (including Formosan termites) that would make the Treated Wood structurally unfit for the intended application, provided that the structure is a Permitted Application, was Properly Installed and was Properly Maintained during the warranty period.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Who is Covered by this Warranty?

A "Qualified Owner" under this warranty is (a) any person that purchases and installs Treated Wood in a Permitted Application, (b) the original legal owner of the structure in which such Treated Wood is Properly Installed, and (c) each person who takes legal title of such structure prior to the 20th anniversary of the installation.

Permitted Applications

To be covered by this Limited Warranty the Treated Wood must be used in a "Permitted Application," which means:

- (A) Structures must be constructed (i) within the continental United States, (ii) in accordance with all applicable building codes and inspected and certified for compliance by a local building code official and (iii) constructed with a treated wood sill plate made of wood pressure treated in accordance with American Wood Protection Association Standard U1 or a valid ICC ES Evaluation Report installed between the foundation and all framing.
- (B) Treated Wood must be used in above-ground locations that are not intended to be exposed to liquids or water (based on architectural drawings or building plans) and that are in fact, continuously protected from exposure to precipitation or other sources of water.

What Treated Wood Products are Covered?

Treated Wood covered by this warranty includes solid or engineered wood or wood-based products used for interior framing that has been properly treated by a licensee of Warrantor using FrameGuard® or FrameGuard® Total™ wood preservative treatment chemicals in conformity with the FrameGuard® Manual of Standard Practice and applicable FrameGuard Specifications. Structural Insulated Panels (SIPs) shall be considered Treated Wood covered by this Limited Warranty only if the SIP is manufactured by a licensed producer of Warrantor using a termiticidal treated foam. A listing of FrameGuard® licensed producers, including those authorized to produce SIPs, is available at www.frameguardwood.com.

Proper Installation

To be covered by the 20 year warranty against damage from decay and termites, Treated Wood must be "Properly Installed" which means: Buildings constructed with Treated Wood must be pretreated for protection against termites by application of an EPA-registered chemical termiticide (i) at the time of construction, (ii) by a licensed pest control operator, (iii) in accordance with the termiticide product label instructions for pretreatment against termites and (iv) in accordance with all applicable state or local laws and building code requirements. Such treatment may include either treatment of the soil or framing.

Proper Maintenance for Termite Warranty

To be covered by the 20 year warranty against damage from termites, the structure containing the Treated Wood must be "Properly Maintained," which means:

- (A) The structure containing the Treated Wood must be inspected once a year by a licensed pest control operator.
- (B) The Qualified Owner shall obtain and keep in force throughout the warranty period a termite damage bond or warranty from a reputable pest control company which provides

for retreatment and repair of any structural damage by the pest control company.

(C) Upon discovery of termite damage during an inspection, any retreatment or repair of damage recommended by the pest control company must be completed in a timely manner.

Limited Warranty Exclusions

This Limited Warranty DOES NOT cover and is NOT APPLICABLE to damage of Treated Wood when any of the following conditions apply:

- (1) The Treated Wood was exposed to moisture or wetting after installation;
- (2) The Treated Wood was not Properly Installed in a Permitted Application;
- (3) The Treated Wood was not Properly Maintained on a continuous basis after installation;
- (4) The Treated Wood was subject to misuse or improper handling, storage, installation, or maintenance;
- (5) The claimed damage is covered by a termite bond or warranty by a pest control operator or pretreatment manufacturer. Coverage under such termite bond or warranty must be fully exploited prior to receiving any remedy under this Limited Warranty; or
- (6) The claimed damage resulted in whole or in part from any of the following: (i) any physical disturbance of soil subsequent to pretreatment (if pretreatment was applied to soil); (ii) any improper or incorrectly performed alteration to the structure made after the original installation of the Treated Wood and/or failure of such alteration to meet or exceed all requirements of this Limited Warranty as applicable to original construction; or (iii) any acts of God such as lightning, wind storm, hurricane, tornado, hail, flood, or other similar severe weather or similar natural phenomena.

This Limited Warranty does not cover any costs associated with removal or disposal of the damaged Treated Wood or the transport, handling, delivery or installation of the replacement Treated Wood.

Exclusion of Implied Warranties

THIS LIMITED WARRANTY IS THE ONLY EXPRESS WARRANTY MADE BY WARRANTOR WITH RESPECT TO TREATED WOOD AND EXCLUDES ALL OTHER EXPRESS OR IMPLIED WARRANTIES. WARRANTOR SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND ANY OTHER IMPLIED WARRANTIES OTHERWISE ARISING FROM THE COURSE OF DEALING OR USAGE OF TRADE OR ADVERTISING, EXCEPT TO THE EXTENT SUCH DISCLAIMERS ARE PROHIBITED BY APPLICABLE CONSUMER LAW. NOTHING IN THIS LIMITED WARRANTY IS INTENDED TO CREATE ANY IMPLIED WARRANTIES, EXTEND SAME BEYOND THEIR CUSTOMARY DURATION, OR MAKE WARRANTOR LIABLE FOR ANY IMPLIED WARRANTIES THAT IT WOULD NOT BE LIABLE FOR IF THIS LIMITED WARRANTY HAD NOT BEEN GIVEN.

Limitation of Liability

In no event will Warrantor be liable for any incidental, special, indirect, multiple, punitive or consequential damages resulting from any defect in any Treated Wood, including but not limited to personal injury, damage to property or lost profits. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you.

Warrantor's obligation under this Limited Warranty shall not exceed the lesser of the value of Treated Wood subject to the warranty claim shown on the purchase invoice or an aggregate value of \$5,000.

Remedies

With respect to any Treated Wood that fails to conform to the warranties set forth herein, the Qualified Owner's sole and exclusive remedy and Warrantor's sole and exclusive liability will be for remediation, replacement or reimbursement, at Warrantor's option, of such nonconforming Treated Wood, and under no circumstances will Warrantor be liable for construction, repair, or other costs related to replacement of any nonconforming Treated Wood.

How to Make a Claim

To make a claim under this Limited Warranty, the Qualified Owner must notify Warrantor in writing within thirty (30) days after discovery of any failure of Treated Wood to conform to this Warranty and before beginning any permanent repairs. The claim must include the date the Treated Wood was coated, the treating company name, the date of installation, a description of the nature of the damage, the quantity and type of damaged Treated Wood and photos depicting the damage.

For termite claims, the Qualified Owner must also document the dates of the termite pretreatment application and annual inspections, a valid termite warranty or bond and the date of any subsequent termite inspections, treatments, and remedial work. This can be done by retaining records such as: invoices and receipts, building permits, contractor and service billings, service contracts, pretreatment certificates and pest control inspection reports.

The claim must be mailed to

Arch Wood Protection, Inc.
Attn: Customer Service Manager
360 Interstate North Parkway, Suite 450
Atlanta, GA 30339

Upon reasonable notice, the Qualified Owner must allow Warrantor's agents to enter the property and building and inspect the claimed Treated Wood. If the inspection does not reveal that any Treated Wood failed to conform to this Limited Warranty the Qualified Owner assumes responsibility for a reasonable service and travel charge as billed by Warrantor for inspection of the structure.

Warrantor will perform its obligations under this warranty, if any, within ninety (90) days of receiving complete information from Qualified Owner.

MODEL SPECIFICATION

MOLD-RESISTANT TREATED WOOD

SECTION 06 05 76

For a downloadable, editable version of this model specification, see www.frameguardwood.com/spec.

PART 1 — GENERAL

1.1 SUMMARY

- A. Section Includes: Shop-applied mold-resistant treatment of:
 - 1. [Framing lumber.]
 - 2. [Plywood.]
 - 3. [Oriented strand board.]
 - 4. [Engineered wood products.]
 - 5. [Parallel strand lumber.]
 - 6. [Laminated veneer lumber.]
 - 7. [Wood I-beams.]
- B. Related Sections:
 - 1. Division 01: Administrative, procedural, and temporary work requirements.
 - 2. Section [06 11 00 - Wood Framing] [____ - ____]: Lumber for mold-resistant treatment.
 - 3. Section [06 12 00 - Structural Panels] [____ - ____]: Wood faced panels for mold-resistant treatment.
 - 4. Section [06 15 00 - Wood Decking] [____ - ____]: Decking for mold-resistant treatment.
 - 5. Section [06 16 00 - Sheathing] [____ - ____]: [Plywood] [Oriented strand board] sheathing for mold-resistant treatment.
 - 6. Section [06 17 00 - Shop-Fabricated Structural Wood] [____ - ____]: Engineered lumber for mold-resistant treatment.

1.2 REFERENCES

- A. American Wood Protection Association (AWPA):
 - 1. E1-06 — Standard Method for Laboratory Evaluation to Determine Resistance to Subterranean Termites.
 - 2. E12-94 — Standard Method of Determining Corrosion of Metal in Contact with Treated Wood.
- B. ASTM International (ASTM) D 3273-00 (2005) — Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
- C. Environmental Protection Agency (EPA) — Registered products listing.

1.3 SUBMITTALS

- A. Submittals for Review:
 - 1. Product Data: Manufacturer's descriptive data and test results for treated products.
 - 2. Samples:
 - a. [12] [] inch long treated lumber samples.
 - b. [12 x 12] [] x [] inch treated [plywood] [oriented strand board] samples.
- B. Sustainable Design Submittals:
 - 1. Low-emitting materials.
 - 2. Innovation in design.
- C. Quality Control Submittals:
 - 1. Current EPA approval listing.

1.4 QUALITY ASSURANCE

- A. Applicator Qualifications: Licensed by mold treatment manufacturer.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver treated products bearing manufacturer's quality stamp indicating:
 - 1. Inspection agency.
 - 2. Month and year of application.
 - 3. Treatment facility.
 - 4. Treatment used.
 - 5. Suitable end uses for products.
- B. Store treated products off ground.

1.6 WARRANTIES

- A. Furnish manufacturer's warranty providing coverage against:
 - 1. Development of mold on treated products for 180 days prior to installation.
 - 2. Development of mold on treated products for period of 20 years after installation.
 - 3. Structural damage by termites, including Formosan termites, for period of 20 years after installation.

PART 2 — PRODUCTS

2.1 MANUFACTURERS

- A. Contract Documents are based on FrameGuard Total wood treatment by Lonza Wood Protection (Arch Wood Protection, Inc.)
- B. Substitutions: [Under provisions of Division 01.] [Not permitted.]

2.2 MATERIALS

- A. Treatment Chemicals:
 - 1. Proprietary broad-spectrum anti-mold and preservative chemicals.
 - 2. Registered with EPA.
- B. Treated Wood:
 - 1. Mold growth: 0 rating, tested to ASTM D 3273 for 8 weeks at 77 degrees F and 100 percent relative humidity.
 - 2. Termite resistance: Minimum rating of 7.0, tested to AWPA E1.
Use below if resistance to Formosan termites is desired.
 - 3. Corrosion potential for metals in contact with treated wood: Maximum 2 mils per year, tested to AWPA E12 for minimum of 60 days on aluminum 2024, carbon steel, hot-dip galvanized steel, and G90 galvanized steel.
 - 4. Equivalent lateral resistance and tooth holding capacity as untreated wood.

2.3 FABRICATION

- A. Apply mold-resistant treatment to scheduled components under controlled conditions by spray or dip method, to retention levels required by treatment manufacturer.

PART 3 — EXECUTION

3.1 INSTALLATION

- A. Install mold-resistant treated products under provisions of Section[s] [06 11 00] [06 12 00] [06 15 00] [06 16 00] [06 17 00] [____].
- B. Treatment of field cuts and holes is not required.

FRAMEGUARD[®] WOOD IN ACTION



**CONTACT LONZA WOOD PROTECTION
866-736-7366**

WWW.FRAMEGUARDWOOD.COM