

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Housing - Federal Housing Commissioner

Series and Series Number:
MATERIALS RELEASE NO: 1306a
(Supersedes issue dated
January 23, 2001)

TO: DIRECTORS, SINGLE FAMILY HOCs
DIRECTORS, MULTIFAMILY HUBs

ISSUE DATE

February 17, 2004

REVIEW DATE

February 17, 2007

SUBJECT: 1. Product Carefree Decking and Carefree Guardrail Systems

2. Name and address
of Manufacturer U. S. Plastic Lumber, Ltd.
2600 W. Roosevelt Road
Chicago, IL 60608

Data on the nonstandard product described herein have been reviewed by the Department of Housing and Urban Development (HUD) and determination has been made that it is considered suitable from a technical standpoint for the use indicated herein. This Release does not purport to establish a comparative quality or value rating for this product as compared to standard products normally used in the same manner.

This Materials Release cannot be used as an indication of endorsement or approval by HUD of the described product, and any statement or representation, however made, indicating such approval or endorsement by HUD is unauthorized. See Code 18, U.S.C. 709.

Any reproduction of this Release must be in its entirety.

USE: Flooring and guardrail systems.

DESCRIPTION:

Carefree Decking and Carefree Guardrail System components are manufactured from recycled high density polyethylene (HDPE) extruded into solid plastic profiles for use as flooring and guardrails on exterior balconies, porches, decks and similar appendages on structures of combustible construction.

Carefree decking is manufactured in 1 x 6, 2 x 6 and C-Deck profiles. See Figures 1 and 2.

Carefree Guardrail System is comprised of top and bottom horizontal rails, trim molding, vertical spindles, rail support blocks, and nominal 4 inch " 4 inch posts. See Figures 3, 4 and 5.

REQUIREMENTS:

The mixed color HDPE material is formed from flakes between 5/16 and 3/8 inches in size and shall be in compliance with the material specifications given in the U.S. Plastic Lumber, Ltd. Quality Assurance Manuals.

DESIGN:

Allowable spans for Carefree Decking shall be in compliance with Table 1.

Table 1
Allowable Spans for Carefree Decking (inches)

Decking Profile	Applied Load (psf)			Fastening System ¹
	60	100	200	
1 x 6	12	N. P.	N. P.	Direct or Groove & Groove
2 x 6	24	24	16	Direct
C-Deck	16	12	N. P.	Direct or EC-Clip

Notes:

1. See manufacturer's installation instructions for complete fastening system descriptions.
2. Decking shall span a minimum of three joists.
3. Allowable spans are based on a maximum temperature of 122 degrees F.
4. Maximum uniformly distributed uplift load shall be 35.7 psf.
5. N. P. = not permitted.

INSTALLATION:

1. Carefree Decking shall be installed in accordance with the manufacturer's installation instructions and this Materials Release.
2. Carefree Decking shall be attached to the supporting construction with one of the following fastening systems:

Direct:

Deck board lengths are limited to 8 feet or less.

Fasteners shall be in compliance with Table 2.

The spacing between screws shall not be less than $\frac{1}{2}$ of the decking board width.

The edge distance shall not be less than $\frac{1}{4}$ of the decking board width.

The end distance shall not be less than $\frac{3}{4}$ inches.

EC-Clip System:

The clip is manufactured from 18 gage Type 304 steel, conforming to ASTM A666.

Fasteners shall be in compliance with Table 2.

At the mid-point of the length of each deck board, toe-screw one No. 7 x 1-7/8 inch long flat-head screw through the side of the deck board into a joist.

Groove & Groove:

The polyethylene G & G clip is 2 inches long, 11/16 inches wide and 7/16 inches thick.

Fasteners shall be in compliance with Table 2.

At the mid-point of the length of each deck board, toe-screw one No. 7 x 1-7/8 inch long flat-head screw through the side of the deck board into a joist.

3. Adjacent deck boards shall have a minimum space of $\frac{1}{4}$ inch per eight-feet of board length between board ends.
4. Allow an $\frac{1}{8}$ inch gap between the end of decking boards and intersections with walls, posts or other fixed objects for every 20 degree F difference in installation temperature and the highest anticipated annual ambient temperature.

5. Carefree Guardrail Systems shall be installed in accordance with the manufacturer's installation instructions and this Materials Release. See Figure 3 for required fasteners.
6. The top and bottom horizontal rails of Carefree Guardrail Systems are manufactured in lengths of 4 and 6 feet and may be trimmed to 44 ½ and 68 ½ inches, respectively.
7. A rail clip manufactured from 16 gage Type 304 steel, conforming to ASTM A666 shall be used to connect each rail to each post.
8. Carefree Guardrail Systems shall be fastened to the supporting construction at each post with either two, 3/8 inch diameter by 8 inch long hex-head lag screws with 3/8 inch SAE washers; or two, 3/8 inch diameter long hex-head bolts with 3/8 inch SAE washers.

Table 2
Minimum Fasteners for Carefree Decking

Fastening System ¹	Decking Profile	Screw Type ²
Direct	2 x 6	# 10, 2 ½ in. long, flat head, minimum
	C-Deck & 1 x 6	#8, 1 7/8 in. long, flat head, minimum
EC-Clip	All	#7, 1 7/8 in. long, large head into joist # 6, 1 ½ in. long, large head into side of deck board
Groove & Groove	All	#7, 1 7/8 in. long, trim head, minimum

Notes:

1. See manufacturer's installation instructions for complete fastening system descriptions.
2. Stainless steel screws are recommended by the manufacturer.

QUALITY CONTROL

Carefree Quality and Manufacturing Procedures Manual for Denton, MD, dated December 2, 2000, signed by representatives of U. S. Plastic Lumber, Ltd. and the third-party quality control agency, PFS Corporation.

Carefree Quality and Manufacturing Procedures Manual for Green Bay, WI, dated December 2, 2000, signed by representatives of U. S. Plastic Lumber, Ltd. and the third-party quality control agency, PFS Corporation.

U. S. Plastic Lumber, Ltd. Quality control manuals are on file with HUD and all test data is available for HUD inspection, upon request

PRODUCTION FACILITIES: *

*To be provided by manufacturer.

CERTIFICATION AND IDENTIFICATION:

U. S. Plastic Lumber, Ltd. shall certify that each Carefree Decking and Carefree Guardrail System conforms to the requirements of this MR. PFS Corporation shall validate the manufacturer's certification that the Carefree Decking and Carefree Guardrail System meet the requirements of this MR. Each certified Carefree Decking and Carefree Guardrail System shall be marked with the following information:

1. U. S. Plastic Lumber, Ltd.
2. Product description
3. Plant location designation
4. Operator designation
4. Third-party inspection agency or logo, PFS
5. MR 1306a
6. Date of production

WARRANTY:

U. S. Plastic Lumber, Ltd. warrants the Carefree Decking or Carefree Guardrail Systems against faulty performance resulting from faulty materials or workmanship in the manufacturing process for a period of fifty (50) years from the date of shipment.

The manufacturer's warranty does not, in any way, relieve the builder of responsibility under the terms of the Builder's Warranty required by the National Housing Act or under any provisions applicable to any other housing program. A copy of the manufacturer's warranty shall be furnished by the builder to the owner upon completion of the installation.

MANUFACTURER'S RESPONSIBILITIES:

Issuance of this Materials Release (MR) commits the manufacturer to fulfill as a minimum, the following:

1. Produce, label and certify the material, product or system in strict accordance with the terms of this MR.
2. Provide necessary corrective action in a timely manner for all cases of justified complaint, poor performance or failure reported by HUD.
3. When requested, provide the FHA Standards, Office of Manufactured Housing Programs, HUD Headquarters, with a representative list of properties in which the material, product or system has been used, including complete addresses or descriptions of locations and dates of installation.
4. Inform HUD, in advance, of changes in production facilities, methods, design of the product, company name, ownership or mailing address.

EVALUATION:

This MR shall be valid for a period of three years from the date of initial issuance or most recent renewal or revision, whichever is later. The holder of this MR shall apply for renewal or revision 90 days prior to the Review Date printed on this MR. Submittals for renewal or revision shall be sent to:

U. S. Department of Housing & Urban Development
FHA Standards, Office of Manufactured Housing Programs
451 Seventh Street, S.W., Room 9168
Washington, DC 20410

Additionally, the appropriate User Fee shall be sent to:

U. S. Department of Housing and Urban Development
Technical Suitability of Products Fees
P. O. Box 954199
St. Louis, MO 63195-4199

The holder of this MR may apply for revision at any time prior to the Review Date. Minor revisions may be in the form of a supplement to this MR.

If the Department determines that a proposed renewal or supplement constitutes a revision, the appropriate User Fee for a revision will be need to be submitted in accordance with in accordance with Code of Federal Regulations 24 CFR 200.934, "User Fee System for the Technical Suitability of Products Program," and current User Fee Schedule.

CANCELLATION:

Failure to apply for a renewal or revision shall constitute a basis for cancellation of the MR. HUD will notify the manufacturer that the MR may be canceled when:

1. conditions under which the document was issued have changed so as to affect production of, or to compromise the integrity of the accepted material, product, or system;
2. the manufacturer has changed its organizational form without notifying HUD; or,
3. manufacturer has not complied with responsibilities it assumed as a condition of HUD's acceptance.

However, before cancellation, HUD will give the manufacturer a written notice, of the specific reasons for cancellation, and the opportunity to present views on why the MR should not be canceled. No refund of fees will be made on a canceled document.

 This Materials Release is issued solely for the captioned firm, and is not transferable to any person or successor entity.

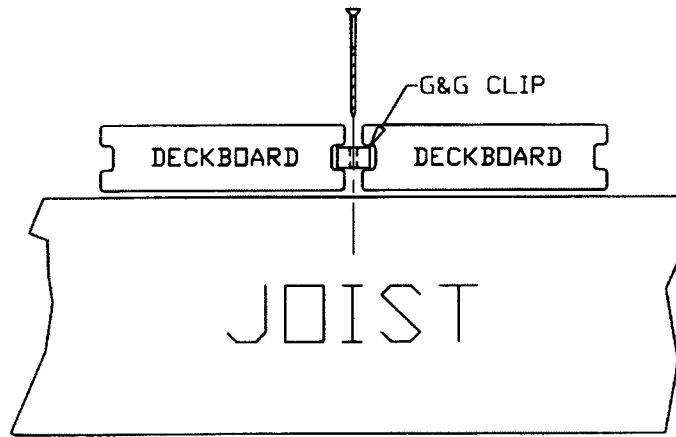


Figure 1
GROOVE & GROOVE SYSTEM

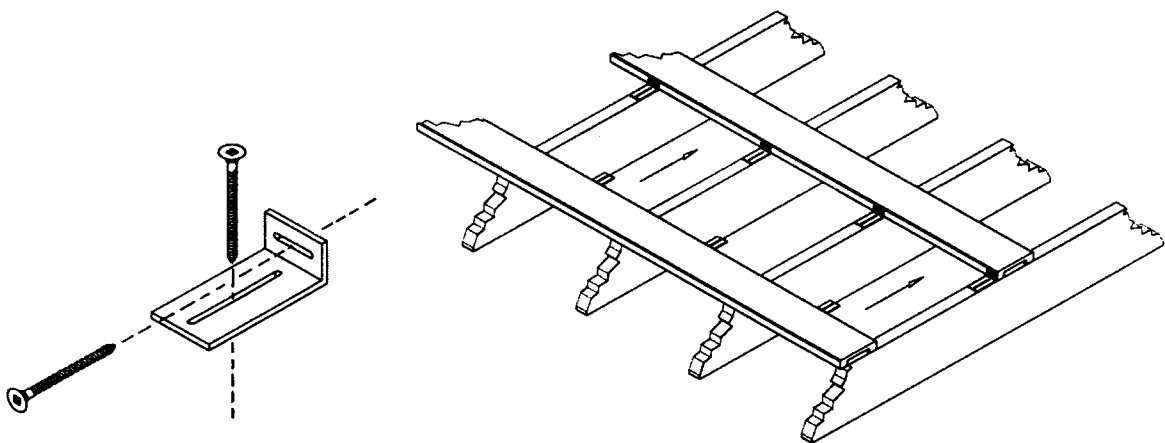


Figure 2
EC-CLIP SYSTEM

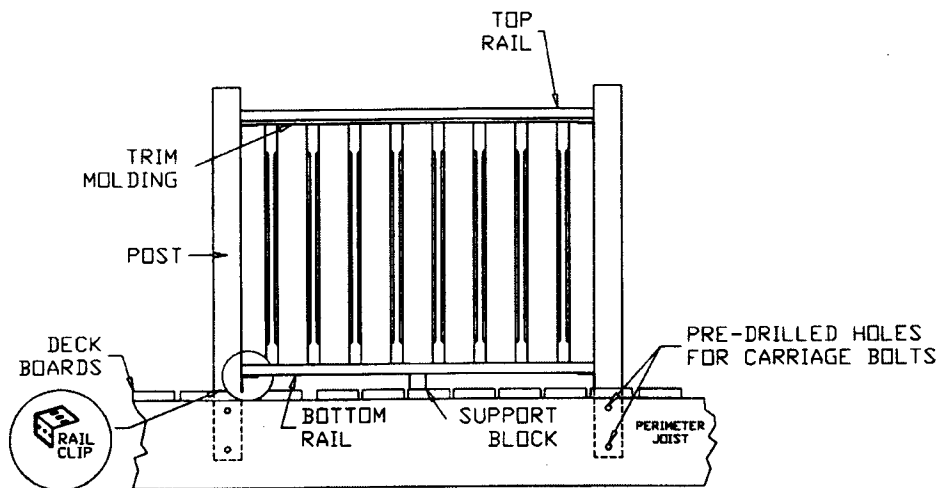


Figure 3
CAREFREE GUARDRAIL SYSTEM

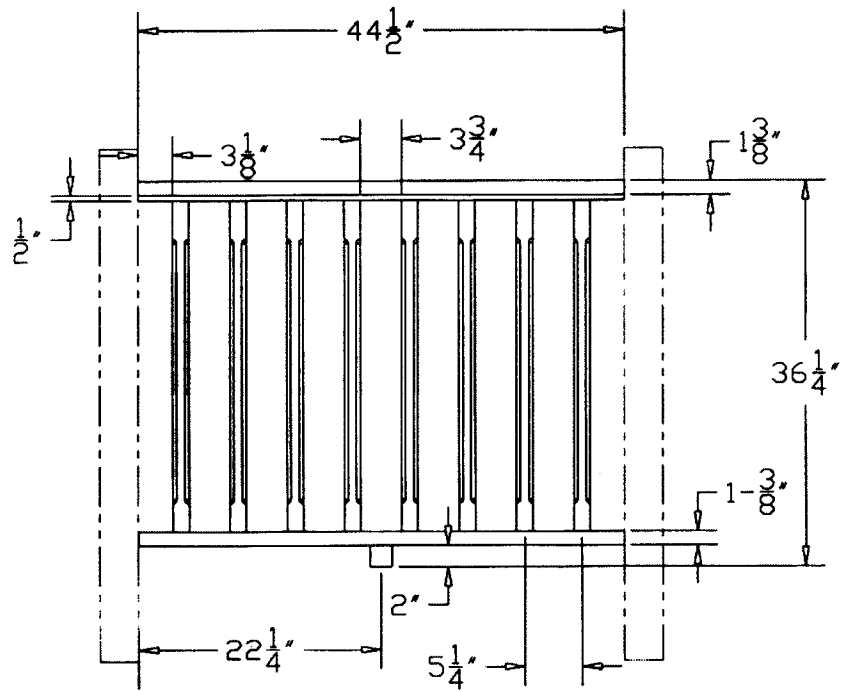
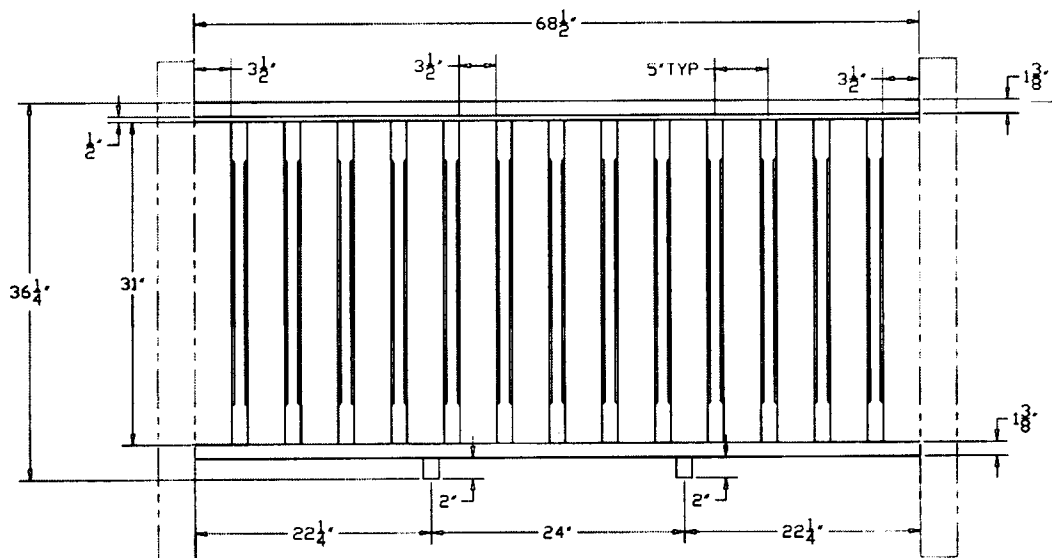


Figure 4
4 FOOT RAILING ASSEMBLY

Figure 5
6 FOOT RAILING ASSEMBLY



Notes to Figures:

1. The rail support blocks shall be fastened to the bottom rail with 1 # 10, 3 in. long flat head screw.
2. Each rail shall be connected to a nominal 4 x 4 in. post with one rail clip. The rail clip shall be fastened to the rail and the post with a total of 4 # 10, 1 ½ in. long pan head screws. Two screws shall fasten the rail clip to the post, and two screws shall fasten the rail clip to the rail.
3. Two holes for the 3/8 in. bolts or lag screws shall be located on the vertical center of each 4 x 4 in. post, with the top hole located 1 ¼ in. from the top of the perimeter joist and the bottom hole, 6 ¼ in. from the top of the perimeter joist.
4. Dimensions given in Figures 4 and 5 are as-manufactured. Railings are permitted to be cut to a minimum length of 44 ½ in. for Figure 4 and 68 ½ in. for Figure 5.