EXECUTIVE SUMMARY[1]

The repair and remodeling of residential units in the existing housing stock is an important market for wood products. Included are many, and varied repair and remodeling activities and projects, some of which require substantial amounts of wood products, some of which do not. Currently, about 24 percent of all lumber, 23 percent of all structural panels, 15 percent of all nonstructural panels[2], and lesser amounts of engineered wood products[3] consumed in the United States are used for residential repair and remodeling. This market has become much more important in recent years as the Nation's housing stock has grown larger, its average age has increased, and homeowner incomes have risen

Expenditures

Annual activity in the residential repair and remodeling market is measured by the **U.S. Department** of Commerce, Bureau of the Census in terms of dollars of expenditure (USDC BC 1998). Expenditures, when converted to constant 1992 dollars, totaled nearly $100 billion in 1997 (see Table ES-l). This was down by about $8 billion-dollars from 1986 expenditures, and $11 billion below the record high level of $111 billion set in 1988 (see Figure ES-l).

Table ES-1.-Constant Dollar Expenditures and Wood Products Used for Residential Repair and Remodeling in the United States, by activity type, 1986, 1991 and 1997

		Lumber		Structural panels[a] (3/8-inch basis)		Nonstructural panels[b] (3/8-inch basis)	
Year and Activity	Expenditures (Mil 92 $)	Total use (Mil. bf)	Use per $1.000 (Bf)	Total use ($Mil.ft^2$)	Use per $1.000 ($Ft^2$)	Total use (Mil. ft^2)	Use per $1,000 ($Ft^2$)
1986							
Additions & alterations	45,529	13,596	298.6	5,392	118.4	3,562	78.2
Major replacements	19,687	1,207	61.3	1,069	54.3	294	14.9
Maintenance and repair	42,418	1,172	27.6	770	18.1	510	12.0
Total	107,635	15,975	148.4	7,231	67.2	4,367	40.6
1991							
Additions & alterations	31,351	11,811	376.7	4,396	140.2	2,777	88.6
Major replacements	16,965	1,144	67.5	1,087	64.1	205	12.1
Maintenance and repair	50,497	1,978	39.2	1,116	22.1	734	14.5
Total	98,812	14,934	151.1	6,599	66.8	3,716	37.6
1997							
Additions & alterations	46,703	11,278	241.5	3,593	76.9	2,281	48.8
Major replacements	20,574	1,305	63.4	2,932	142.5	368	17.9
Maintenance and repair	32,444	1,181	36.4	550	17.0	65	2.0
Total[c]	99,722	13,764	138.0	7,075	70.9	2,714	27.2

[a]Includes softwood plywood, OSB, and waferboard
[b]Includes hardwood plywood, particleboard, medium density fiberboard, hardboard and insulation board
[c]Total excludes 85.5 million linear feet (lf) of I-joistsw, 8.1 million lf of I-joints rim boards, 1.8 million ft^3 of laminated veneer lumber, and less than 0.1 million ft^3 of other structural composite lumber used in 1997
Sources: *Expenditures: USDC, BC 1998, Wood products use:* Haynes 1990, McKeever and Anderson 1993

[1]Executive Summary prepared by David B. McKeever, Research Forester, USDA Forest Service, Forest Products Laboratory, Madison, WI 53705-2398.

[2]Includes hardwood plywood, particleboard medium density fiberboard, hardboard and insulation board.

[3]Includes I-joists and I-joist rim boards, laminated veneer lumber, and other structural composite lumber products.

Wood Products Use Per $1,000 of Expenditure

Wood products use per $1,000 of constant dollar expenditure measures the relative amounts of each wood product used per unit of repair and remodeling activity. Prior to 1991, use factors were based on limited case study and anecdotal information. A comprehensive study conducted in 1991 indicated that much more wood was being used per $1,000 of expenditure than previously estimated (Mckeever and Anderson 1993), and that use factors differed considerably for each of the three expenditure types mentioned above. Results from the current study also confirm these higher use factors. Based on use factors by expenditure type from the 1991 study, overall wood products consumption per $1,000 of constant dollar expenditure estimates for 1986 were revised upward Estimates of wood products use prior to 1986 were not revised because of the revisions to expenditures data made in 1984 by the Bureau of the Census. Comparisons between 1986 and later years to years prior to 1986 may not be valid.

Lumber and nonstructural panel use per $1,000 of constant (1992) expenditure in 1997 was below levels in both 1986 and 1991 (see TabIe ES-1). Structural panel use per $1,000 of expenditure in 1991 was down slightly from use in 1986, but was higher in 1997 than in prior years. Overall use per $1,000 of expenditure in 1997 averaged 138 bf of lumber, 71 ft^2 (3/8-inch basis) of structural panels, and 27 ft^2 (3/8-inch basis) of nonstructural panels. These use factors are averages weighted over all expenditure types. Use factor differences between 1986, 1991 and 1997 reflect relative levels of expenditures between expenditure types, characteristics of individual projects within each expenditure type, and actual changes in the types and amounts of each wood product used. Declining use factors also reflect a more rapid overall increase in the cost of labor compared to the cost of materials in construction. Between 1986 and 1997, the producer price index for construction materials and components increased about 35 percent (USDC BLS 1999). During the same period, employment cost indexes, which measure the cost of wages, salaries and fringe benefits, increased about 50 percent (Council of Economic Advisors 1998). Thus, a greater proportion of each dollar of expenditure now goes toward labor, and lesser amounts toward materials than in the past. The net result is a higher level of overall expenditure being required to purchase needed materials, and a tendency toward declining wood products use per $1,000 of expenditure.

Total Wood Products Use

The repair and remodeling of residential structures and properties consumed an estimated 13.8 billion bf of lumber, 7.1 billion ft^2 (3/8-inch basis) of structural panels, and 2.7 billion ft^2 (3/8-inch basis) of nonstructural panels in 1997 (see Table ES-2). Of that, 82 percent of all the lumber, 51 percent of all the structural panels, and 84 percent of all the nonstructural panels were used for additions and alterations. The remaining amounts were divided between maintenance and repair, and major replacement activities. In addition, 85.5 million linear feet (lf) of I-joists, 8.1 million lf of I-joist rim boards, 1.8 million ft^3 of laminated veneer lumber, and less than 0.1 million ft^3 of parallam and other structural composite lumber were used in 1997. Total lumber and nonstructural panel use in 1997 was below levels of use in both 1986 and 1991 (see Table ES-1). Lumber fell by 2.2 billion bf (14 percent), and nonstructural panel use fell by 1.7 billion ft^2 (3/8-inch basis) (38 percent) below use in 1986. Structural panel use in 1997 was below use in 1986 by about 0.2 billion ft^2(3/8-inch basis) (2 percent), but nearly 0.5 billion ft^2 (3/8-inch basis) (7 percent) greater than use in 1991.

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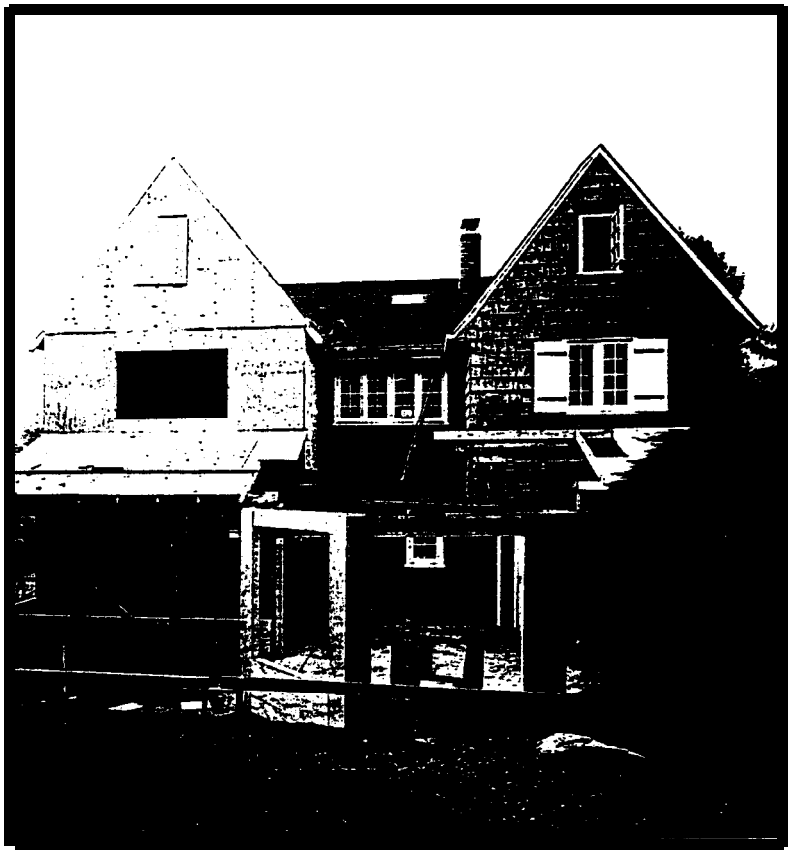
Wood Products Council



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WOOD PRODUCTS USED IN RESIDENTIAL REPAIR AND REMODELING

1997

FOR THE

WOOD PRODUCTS COUNCIL

NAHB Research Center, Inc.

February 5, 1999

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

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