Nonresidential Prefabricated Building Systems

US Industry Study with Forecasts for 2015 & 2020

Study #2780 | September 2011 | $4800 | 285 pages
Table of Contents

EXECUTIVE SUMMARY

MARKET ENVIRONMENT
General ........................................ 4
Macroeconomic Outlook .................... 5
Demographic Trends ........................ 9
Nonresidential Building
  Construction Trends ..................... 13
  New .......................................... 14
  Improvements & Repairs ................ 16
Agricultural Outlook ....................... 17
Nonresidential Fixed Investment ........ 19
Government Spending & Investment .... 22

INDUSTRY OVERVIEW
General ........................................ 25
  Outlook ..................................... 28
Pricing Patterns ............................. 32
  Historical Market Trends .............. 34
Systems Building Versus
  Conventional Construction ........... 37
  Building Code Regulations ............ 40
US Foreign Trade ........................... 43
Exports ....................................... 44
Imports ...................................... 46
World Industry Outlook .................... 48

METAL BUILDING SYSTEMS
General ........................................ 50
  Supply & Demand ......................... 52
Demand by Type ............................ 54
  Standard .................................. 56
    Industrial ................................ 58
    Office & Commercial ................. 59
    Institutional ........................... 59
Agricultural ............................... 60
Other Metal Buildings .................... 62
Components ................................ 64
  Roofing Systems ......................... 65
  Wall Panels .............................. 69
  Other Components ...................... 72
Leading Suppliers ......................... 74

NONMETAL BUILDING SYSTEMS
General ........................................ 76
  Supply & Demand ......................... 76
  Panelized Precast Concrete Systems ... 85
    Types ................................... 87
    Trends .................................. 88
Other .......................................... 90
  Prefabricated Precast
    Concrete Buildings .................... 91
  Autoclaved Aerated Concrete .......... 92
  Pre-Engineered Fabric Structures .... 94
Cross-Laminated Timber .................. 95
  Leading Suppliers ....................... 96
  Modular Building Systems .......... 97
  Precast Concrete Building
    Systems & Others ..................... 99

MARKETS
General ........................................ 100
  Institutional ............................. 103
  Industrial ................................ 106
  Commercial ............................... 109
Office ....................................... 112
Agricultural ............................... 114
Other ......................................... 116

REGIONAL DEMAND
General ........................................ 119
  Regional Demographic/Economic Trends 120
    Population Patterns ................. 121
    Economic Outlook ..................... 123
Construction Outlook .................... 125
  Nonresidential Prefabricated Building
    System Demand ......................... 127
    Northeast ................................ 130
    New England ............................ 132
    Middle Atlantic ....................... 132
    Midwest ................................ 133
    East North Central ................... 136
    West North Central ................... 136
    South .................................... 137
    South Atlantic ........................ 140
    East South Central ................... 142
    West South Central ................... 143
    West ...................................... 145
    Mountain ................................ 147
    Pacific .................................. 149

INDUSTRY STRUCTURE
General ........................................ 151
  Industry Composition .................... 152
  Metal Building Systems ................ 155
  Modular Building Systems ................ 155
  Precast Concrete Building Systems .... 156
  Other Nonresidential Prefabricated
    Building Systems ..................... 157
  Market Share ................................ 157
  Competitive Strategies ................. 162
  Product Development .................... 164
  Computerization ........................ 164
  Improved System or
    Material Performance .............. 166
  Increased Design Flexibility .......... 168
  Manufacturing ........................... 169
  Marketing ................................ 169
  Distribution ............................. 171
  Mergers & Acquisitions ............... 172
  Cooperative Agreements ............... 175

COMPANY PROFILES
Accelerated Construction Technologies .. 178
Alcoa Incorporated ........................ 179
Algeco Scotsman Worldwide ............. 180
All American Group ....................... 182
American Modular Systems .............. 183
ATCO Limited .............................. 185
Behlen Manufacturing .................... 187
Berkshire Hathaway ....................... 190
BlueScope Steel ............................ 192
Bridgestone Corporation .................. 199
Brito Structures ........................... 202
Chief Industries ........................... 204
Coreslab Structures ...................... 206
Cretex Companies ......................... 207
CRH plc ...................................... 208
Deluxe Building Systems ............... 212
EnCon Companies ......................... 213
Euramax Holdings ......................... 215
Fabcon Incorporated ...................... 217
Gate Petroleum ............................ 218
HeidelbergCement AG ..................... 220
High Companies ............................ 222
Kingspan Group ............................ 224
Lester Building Systems .................. 227
Madison Industries ......................... 229
(continued on following page)
Table of Contents

Mark Line Industries .................................. 231
Modtech Holdings .................................. 232
Modular Space .................................. 233
NCI Building Systems .............................. 236
Nucor Corporation .................................. 243
Palomar Modular Buildings ...................... 247
Penn Lyon Homes .................................. 248
Rubb AS .................................. 249
Safecrete .................................. 251
Schulte Building Systems ...................... 253
Smith-Midland Corporation .............. 255
Sprung Instant Structures ............... 256
Sunbelt Modular .................................. 258
Sunward Consolidated ...................... 260
ternium SA .................................. 262
United Structures of America ........... 263
Universal Fabric Structures ........... 265
Walden Structures .................................. 267
Whirlwind Steel Buildings ............. 268
Whitley Manufacturing .................... 270
Additional Companies in the Industry .. 272

List of Tables/Charts

EXECUTIVE SUMMARY
1 Summary Table ................................ 3

MARKET ENVIRONMENT
1 Macroeconomic Indicators ............... 9
2 Population & Households .............. 13
3 Nonresidential Building Construction Expenditures .......... 16
4 Nonresidential Building Improvement & Repair Expenditures .... 17
5 Agricultural Construction Expenditures ........ 19
6 Nonresidential Fixed Investment ....... 22
7 Government Spending & Investment . 24

INDUSTRY OVERVIEW
1 Nonresidential Prefabricated Building System Supply & Demand .......... 31
2 Nonresidential Prefabricated Building System Demand by Type ............ 32
3 Nonresidential Prefabricated Building System Pricing, 2000-2020 ..... 34

2 Nonresidential Prefabricated Building System Market, 2000-2010 .......... 36
Chnt Nonresidential Prefabricated Building System Market, 2001-2010 ...... 37
3 Nonresidential Prefabricated Building System Foreign Trade ............ 44
Chnt Nonresidential Prefabricated Building System Exports by Destination, 2010 ......... 46
Chnt Nonresidential Prefabricated Building System Imports by Source, 2010 ... 48

METAL BUILDING SYSTEMS
1 Metal Building System Supply & Demand ...................... 54
2 Metal Building System Demand by Type ...................... 55
Chnt Metal Building System Demand by Type, 2010 .............. 56
3 Standard Metal Building System Demand ...................... 58
4 Agricultural Metal Building System Demand ...................... 61
5 Other Nonresidential Metal Building System Demand .............. 64
6 Metal Building System Component Demand ...................... 65
7 Metal Roofing System Demand ...................... 69
8 Metal Wall Panel Demand ...................... 72
9 Other Metal Building System Component Demand ...................... 74
Chnt Metal Building System Market Share, 2010 ...................... 75

NONMETAL BUILDING SYSTEMS
1 Nonmetal Building System Supply & Demand ...................... 78
2 Nonmetal Building System Demand by Type ...................... 79
Chnt Nonmetal Building System Demand by Type, 2010 .............. 80
3 Modular Building System Demand .......... 81
4 Panelized Precast Concrete Building System Demand .......... 87
5 Other Prefabricated Building System Demand .............. 91
Chnt Nonmetal Building System Market Share, 2010 ...................... 97

MARKETS
1 Nonresidential Prefabricated Building System Demand by Market .......... 102
Chnt Nonresidential Prefabricated Building System Demand by Market, 2010 . 103
2 Institutional Market for Prefabricated Building Systems .............. 106
3 Industrial Market for Prefabricated Building Systems .............. 109
4 Commercial Markets for Prefabricated Building Systems .............. 112
5 Office Market for Prefabricated Building Systems .............. 114
6 Agricultural Market for Prefabricated Building Systems .............. 116
7 Other Nonresidential Markets for Prefabricated Building Systems ... 118

REGIONAL DEMAND
1 Population by Region ...................... 123
2 Gross Domestic Product by Region .. 125
3 Construction Expenditures by Region ...................... 127
4 US Nonresidential Prefabricated Building System Demand by Region .............. 129
Chnt US Nonresidential Prefabricated Building System Demand by Region, 2010 ...................... 129
5 Northeast Nonresidential Prefabricated Building System Demand .......... 131
6 Midwest Nonresidential Prefabricated Building System Demand .......... 135
7 South Nonresidential Prefabricated Building System Demand .......... 140
8 West Nonresidential Prefabricated Building System Demand .......... 147

INDUSTRY STRUCTURE
1 Revenues for Selected Nonresidential Prefabricated Building System Suppliers, 2010 .............. 153
Chnt Nonresidential Prefabricated Building System Market Share, 2010 .............. 159
2 Selected Acquisitions & Divestitures 174
3 Selected Cooperative Agreements ... 176
The recovery in office and commercial construction, coupled with continued gains in institutional, industrial and agricultural construction, will provide opportunities for prefabricated buildings.

US demand to rise 7.8% annually through 2015

Nonresidential prefabricated building system demand in the US is expected to increase 7.8 percent annually to $15.2 billion in 2015, a strong showing compared to the weakness over much of the previous decade. The recovery in office and commercial construction, coupled with continued gains in institutional, industrial and agricultural construction, will provide opportunities. The development of new products and technologies, including more tailored designs, greater cladding options for metal buildings and improved concrete mixes, will also support demand.

Metal building systems to remain largest segment

Metal building systems have long been the largest segment of the US nonresidential prefabricated building system industry and will remain so for the foreseeable future. While gains are not expected to match the overall prefabricated building system average, demand for metal building systems is expected to post strong 7.2 percent annual gains through 2015. Demand for metal building systems will benefit from product enhancements such as improved coatings, the increased use of nonmetal cladding systems, and greater customization. In addition, solid gains in many types of nonresidential construction, particularly the industrial and agricultural segments, will support the metal building system market.

Among nonmetal building systems, the modular building system segment is expected to see the strongest gains, just ahead of the panelized precast concrete segment. The modular building system market will benefit from robust growth in both commercial and institutional construction activity, as well as from the growing popularity of prefabricated bathroom and kitchen modules. Gains for panelized precast concrete systems will be driven by increases in office and commercial construction, which are among the more popular applications for these systems. In addition, technological improvements, including better reinforcement materials, improved concrete mixtures and greater design options, will support demand.

Commercial applications to post fastest market gains

Through 2015, commercial applications are expected to post the fastest gains of any major market for prefabricated building systems. The commercial market will benefit from solid growth in construction spending and the prevalence of prefabricated structures in several commercial niches, including mini-storage facilities. In addition, both the retail and hospitality segments are expected to rebound from weak 2010 levels. In contrast, the industrial market will post the slowest gains through 2015, rising 3.0 percent annually.
REGIONAL DEMAND

New England -- New England includes the states of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont. Historically, the Northeast’s economy was largely driven by traditional industries relocated to states or foreign countries with lower production costs. Nevertheless, the subregion exhibits diverse economic activity, even though it is the smallest of any census subregion in terms of area and population. High technology (e.g., microelectronics and biotechnology) and financial services are important in the areas near major urban centers, while Maine and parts of New Hampshire have pockets heavily dependent upon natural resources. New England’s population is expected to grow faster than it did between 2005 and 2010, but will remain slower than the national average. The subregion’s economy will increase 4.5 percent per year through 2015.

Nonresidential prefabricated building system demand in New England is forecast to rise to $550 million in 2015. Gains will be supported by increases in population and economic activity, particularly as the region recovers from the downturn. However, given the small population and area of the subregion, New England is expected to remain the smallest of all subregional markets for nonresidential prefabricated systems.

Middle Atlantic -- The Middle Atlantic subregion includes the three heavily populated states of New Jersey, Pennsylvania and New York. Like New England, the Middle Atlantic has lost much of its manufacturing base to areas with lower production costs. Industries that fill some of that gap include drug manufacturing, communications and financial services. However, the Middle Atlantic states will be plagued by an array of structural economic problems. In addition to the loss of much of its manufacturing base, these problems include high real estate costs and social problems of poverty and illiteracy in inner-cities.
Sample Profile, Table & Forecast

COMPANY PROFILES

Lester Building Systems LLC
1111 2nd Avenue South
Lester Prairie, MN  55354
320-395-2531
http://www.lesterbuildings.com

Annual Sales:  $70 million (estimated)
Employment:  225 (estimated)
Key Products:  pre-engineered metal buildings

Lester Building Systems LLC is a manufacturer of pre-engineered metal buildings for farm, ranch, equestrian, commercial, agricultural, personal storage and other applications. The Company is privately held.

The Company’s pre-engineered buildings include pole, horse, steel and metal barns; storage, tool, outdoor and other sheds and storage buildings; garages; and commercial and retail facilities. These structures feature interlocking framing systems that provide high structural integrity; saddled truss connections; flush purlin roof systems; UNI-RIB corrugated, high performance steel roof and wall panels; UNI-FRAME I footings that provide stability and resistance to wind damage; and flexible foundation systems. Additionally, Lester’s buildings can be constructed with INSL-WALL insulated wall panels that feature double studs every four feet. The Company produces its buildings with a wide variety of color, trim, door and window options. Lester’s EBUILDINGS software allows customers to design and customize pre-engineered buildings to meet needed specifications.

Lester maintains service centers in Lester Prairie, Minnesota; Charleston, Illinois; and Clear Brook, Virginia. These locations serve

---

TABLE VI-1
NONRESIDENTIAL PREFABRICATED BUILDING SYSTEM DEMAND BY MARKET
(million dollars)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonres Building Construction (bil $)</td>
<td>299.5</td>
<td>307.4</td>
<td>296.5</td>
<td>446.5</td>
<td>591.5</td>
</tr>
<tr>
<td>$ prefab building/000$ construction</td>
<td>33.5</td>
<td>37.1</td>
<td>35.2</td>
<td>34.0</td>
<td>31.4</td>
</tr>
<tr>
<td>Prefabricated Building System Demand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutional</td>
<td>1825</td>
<td>2750</td>
<td>2860</td>
<td>3820</td>
<td>4850</td>
</tr>
<tr>
<td>Industrial</td>
<td>2550</td>
<td>2310</td>
<td>2615</td>
<td>3030</td>
<td>3570</td>
</tr>
<tr>
<td>Commercial</td>
<td>2360</td>
<td>3040</td>
<td>1955</td>
<td>3720</td>
<td>4550</td>
</tr>
<tr>
<td>Office</td>
<td>2075</td>
<td>1890</td>
<td>1530</td>
<td>2680</td>
<td>3340</td>
</tr>
<tr>
<td>Agricultural</td>
<td>520</td>
<td>570</td>
<td>720</td>
<td>920</td>
<td>1130</td>
</tr>
<tr>
<td>Other</td>
<td>690</td>
<td>830</td>
<td>760</td>
<td>1030</td>
<td>1160</td>
</tr>
</tbody>
</table>

---

“Demand for prefabricated building systems in commercial applications is expected to increase 13.7 percent annually to $3.7 billion in 2015, the fastest pace for any major market. Gains will be driven by solid growth in construction spending in commercial settings and the prevalence of prefabricated structures in several commercial niches, including mini-storage facilities. In addition, ...”

--Section VI, pg. 109
Order Information

Five Convenient Ways to Order

ONLINE: www.freedoniagroup.com
MAIL: Print out and complete the order form and send to The Freedonia Group (see address at the bottom of this form)
PHONE: Call toll free, 800.927.5900 (US) or +1 440.684.9600
FAX: +1 440.646.0484 (US)
EMAIL: info@freedoniagroup.com

Free Handling & Shipping
There is NO charge for handling or UPS shipping in the US. Expect delivery in 3 to 5 business days. Outside the US, Freedonia provides free airmail service. Express delivery is available at cost.

Orders Outside of the US
Checks must be made payable in US funds, drawn against a US bank and mailed directly to The Freedonia Group. For wire transfers please contact our customer service department at info@freedoniagroup.com. Credit cards accepted.

Corporate Use License
Now every decision maker in your organization can act on the key intelligence found in all Freedonia studies. For an additional $2600, companies receive unlimited use of an electronic version (PDF) of the study. Place it on your intranet, e-mail it to coworkers around the world, or print it as many times as you like.

Click here to learn more about the Corporate Use License

ORDER FORM

Nonresidential Prefabricated Building Systems.... $4800

☐ Corporate Use License (add to study price) *
   + $2600

☐ Enclosed is my check (5% discount) drawn against a US bank and payable to The Freedonia Group, Inc., in US funds (Ohio residents add 7.75% sales tax)

☐ Bill my company ☐ American Express ☐ MasterCard ☐ Visa

[ ] Credit Card #

[ ] Expiration Date

Name ________________________________
Title ________________________________
Company ____________________________
Division ____________________________
Street ________________________________
   (No PO Box please)
City/State/Zip _________________________
Country ______________________________
Phone ________________________________ Fax _________________________
Email ________________________________

☐ Individual Use License Agreement
The undersigned hereby represents that the above captioned study will be used by only ___ individual(s) who are employees of the company and that the study will not be loaded onto a network for multiple users. In the event that usage of the study changes, the Company will promptly notify Freedonia of such change and will pay to Freedonia the appropriate fee based on Freedonia’s standard fee schedule then in effect. Note: Entire company corporate use license, add $2600; one additional user, add $600; two additional users, add $1200; three additional users, add $1800.

☐ Corporate Use License Agreement
The above captioned study may be stored on the company’s intranet or shared directory, available to company employees. Copies of the study may be made, but the undersigned represents that distribution of the study will be limited to employees of the company.

Signature ____________________________________________________________

☐ Indicate appropriate option and sign below to order an electronic version of the study.

Save 15%
If you order three (3) different titles at the same time, you can receive a 15% discount. If your order is accompanied by a check or wire transfer, you may take a 5% cash discount (discounts do not apply to Corporate Use Licenses).

Credit Card Orders
For convenience, Freedonia accepts American Express, MasterCard or Visa. Credit card purchases must include account number, expiration date and authorized signature.

The Freedonia Group, Inc. 767 Beta Drive • Cleveland, OH • 44143-2326 • USA • Web site: www.freedoniagroup.com
Tel US: 800.927.5900 or +1 440.684.9600 • Fax: +1 440.646.0484 • e-mail: info@freedoniagroup.com
About The Freedonia Group

The Freedonia Group, Inc., is a leading international industry market research company that provides its clients with information and analysis needed to make informed strategic decisions for their businesses. Studies help clients identify business opportunities, develop strategies, make investment decisions and evaluate opportunities and threats. Freedonia research is designed to deliver unbiased views and reliable outlooks to assist clients in making the right decisions. Freedonia capitalizes on the resources of its proprietary in-house research team of experienced economists, professional analysts, industry researchers and editorial groups. Freedonia covers a diverse group of industries throughout the United States, the emerging China market, and other world markets. Industries analyzed by Freedonia include:

- Chemicals • Plastics • Life Sciences • Packaging • Building Materials • Security & Electronics • Industrial Components & Equipment • Automotive & Transportation Equipment • Household Goods • Energy/Power Equipment

Freedonia Custom Research

Freedonia Custom Research delivers the same high quality, thorough and unbiased assessment of an industry or market as an industry study. Since the research initiative is based upon a company’s specific needs, companies harness Freedonia’s research capabilities and resources to answer unique questions. When you leverage the results of a Freedonia Custom Research engagement, you are able to obtain important answers to specific questions and issues associated with: mergers and acquisitions, new product launches/development, geographic expansion, entry into new markets, strategic business planning, and investment and funding decisions.

Freedonia Custom Research is ideal for companies seeking to make a strategic difference in the status quo and focus on future business growth. Working side by side with clients, Freedonia’s team is able to define a research project that is custom-tailored to answer specific questions and provide the basis from which a company can make informed business decisions.