# ( 0,7 ) James Hardie 

## 2006 Analyst/Investor Tour

Robert Russell
Manufacturing
12-13 December 2006

- Manufacturing
- Capital Efficiency (\$/sf)
- Manning (sf/man)
- Ability to deliver differentiated products
- Aligned
- Patterned
- Thick
- Low Density
- Scale to build purpose built machines
- Culture focused on operational and engineering step change


## Evolution of Equipment

## Hatschek Forming

- 1917 - First machine purchased from Swiss Eternit
- 1980's - JH standardizes around 4'wide x 2 or 3 tub machines
- Mid 1980's to Present - JH pushes equipment design envelope


## Evolution of Equipment

## Hatschek Forming Machine



## Capacity Definitions


" Standard Foot - 1 Foot x 1 Foot x 5/16" Thick

- Standard Product - Product that dictates the design parameters of the machine. This is Cedarmill Plank in the US
- Design Capacity - The amount of standard product that can be made factoring in best practice losses for waste, speed and delay
- Effective Capacity - The current realized capacity over the full product mix


## Evolution of Equipment

## Hatschek Forming

- Late 1980's - 4' wide x 4 tub machines built in Rosehill and Fontana
- 1996 - Fifth tub added to Plant City \#1
- 1996 - PC \#2 built with 24’ stacker
- 1997-5' wide x 6 tub machine built in Cleburne, uses 24' roller
- 1998 - Steam strip placement integrated into Tacoma greensheet stacker



## Hatschek Forming (Cont.)

- 1999 - Hatschek Step Up Implemented in Tacoma and Cleburne. Design Capacity of machines improved by 33\%
- 2002 - JH announces construction of purpose built panel line at Waxahachie. Line designed to:
- Have no product inefficiency gap
- Have superior alignment control of gauged features (+/-1/32")
- 2003 - JH Announces 9 tub machine with capacity of 300 mmsf per year, a $50 \%$ increase over existing lines


## Product Evolution

- Patterns - Have evolved from Sampling Wood Impressions to Fully Developed Industrial Design Process
- Alignment - 23\% of current product mix. Control has evolved from $+/-1 / 8^{\prime \prime}$ to $+/-1 / 32$ ". Next Generation Process being Implemented in Waxahachie Panel line
- Thickness - 12\% of current product mix. Harder to:
- Form
- Cut Off
- Water Jet Cut


## Engineering Reconfiguration

- US Engineering traditionally done at the site level
- Created a central engineering group in 1998. Primary focus on capital construction and major projects.
- Engineering set up to drive:
- Construction
- Process Development and Improvement
- Next Generation



## JH Plant Design Capacity



| Flat Sheet Plants | Capacity <br> $(\mathbf{m m s f})$ |  |
| :--- | ---: | :---: |
| Fontana, CA | 180 |  |
| Plant City, FL | 300 |  |
| Cleburne, TX | 400 |  |
| Tacoma, WA | 200 |  |
| Peru, IL | 400 |  |
| Waxahachie, TX | 360 |  |
| Reno, NV | 300 |  |
| Pulaski, VA | 600 |  |
| Blandon, PA | 200 |  |
| Summerville, SC | $\mathbf{1 9 0}$ |  |
| Flat Sheet Total | 120 |  |
| Cleburne, TX Trim | $\mathbf{1 6 0}$ |  |
| Peru, IL Trim | $\mathbf{2 8 0}$ |  |
| Trim Total | $\mathbf{3 , 4 1 0}$ |  |
| Total |  |  |
|  |  |  |
| FRC Pipe, Plant City FL | $\mathbf{1 0 0 , 0 0 0}$ tons |  |



## Lowest Cost Product

PRODUCTION CAPACITY PER LINE


CAPITAL COST PER UNIT OF CAPACITY (US\$/SF)


## Go-Forward Strategy On Manufacturing

- Transition from focus on high throughput to minimizing delivered cash cost
- Manage shift reductions to balance supply and demand
- Continue to focus on maximizing material yield, labor productivity and machine efficiency
- Ensure ability to efficiently manage excess capacity through downturn while being able to quickly increase capacity if and where necessary
- Minimize cash production costs as fixed costs per unit increase during period of excess capacity


## ShiftReductions

- Shift reductions announced on 27 November 2006 across 5 plants
- Headcount reduction of approximately 100 employees
- Reductions based upon delivered cash cost (cash production cost plus freight) to the market in order to match supply and demand
- Ability to easily increase capacity exists, allowing flexibility
- Tacoma and Plant City continue to operate well ahead of design
- Reno and Pulaski ramp-ups going well
- ColorPlus roll-out continuing and ramping up quickly, allowing for significantly greater network flexibility and national reach
- Network flexibility allowing for greater freight savings due to geographic spread and shorter length of haul
- Increased focus on plant controllable spending


## Areas of Improvement

- XLD technology still being proven out
- Continue to push for higher efficiencies and lower unit cost, especially Blandon, Waxahachie, Peru and Fontana
- Raw material increases highlight need to upgrade supply chain organization - focus on procurement, standardization and levels of centralization
- Ability to transition from high throughput model to network flexibility
- Waste reduction - Focus on interleaver options, waste recycling, water recycling, paint yield and primer yield


## Definitions

## Sales Volumes

mmsf - million square feet msf-thousand square feet
\$/sf - dollar per square foot sf/man - Square foot per person

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expectations that the conditions precedent to the Final Funding Agreement will be satisfied; expectations about payments to a special purpose fund for the compensation of proven asbestos-related personal injury and death claims;
expectations concerning the Australian Tax Office amended assessment; expectations that our credit facilities will be extended or renewed; projections of our operating results or financial condition;
statements regarding our plans, objectives or goals, including those relating to competition, acquisitions, dispositions and our products;
statements about our future performance; and
statements about product or environmental liabilities.
Words such as "believe," "anticipate," "plan," "expect," "intend," "target," "estimate," "project," "predict," "forecast," "guideline," "should," "aim" and similar expressions are intended to identify forward-looking statements but are not the exclusive means of identifying such statements.

Forward-looking statements involve inherent risks and uncertainties. We caution you that a number of important factors could cause actual results to differ materially from the plans, objectives, expectations, estimates and intentions expressed in such forward-looking statements. These factors, some of which are discussed under "Risk Factors" beginning on page 5 of our Form 20-F filed on 29 September 2006 with the Securities and Exchange Commission, include but are not limited to: all matters relating to or arising out of the prior manufacture of products that contained asbestos by current and former James Hardie subsidiaries; compliance with and changes in tax laws and treatments; competition and product pricing in the markets in which we operate; the consequences of product failures or defects; exposure to environmental, asbestos or other legal proceedings; general economic and market conditions; the supply and cost of raw materials; the success of our research and development efforts; our reliance on a small number of product distributors; compliance with and changes in environmental and health and safety laws; risks of conducting business internationally; compliance with and changes in laws and regulations; foreign exchange risks; the successful implementation of new software systems; and the successful implementation of the internal control over financial reporting requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as codified by Item 308 of regulation S-K. We caution you that the foregoing list of factors is not exhaustive and that other risks and uncertainties may cause actual results to differ materially from those in forward-looking statements. Forward-looking statements speak only as of the date they are made.

