

OPPOR



“Research and development is key to developing new technologies which will allow for expansion into new product markets and geographics.”

DON MERKLEY, VICE PRESIDENT, RESEARCH & DEVELOPMENT

To take advantage of the opportunities we have identified for fibre cement, we must continue to develop products that offer advantages over alternatives such as brick, concrete, wood, vinyl and stucco. The extent to which we are successful largely depends on our fibre cement product and process technology, much of which is unique to James Hardie.

Investing in research and development allows us to create the differentiated products we need to enter new markets. It also enables us to improve our process technology, and reduce our capital costs and our operating costs.

Research and development at James Hardie

In the coming year, James Hardie expects to increase its investment in research and development to US\$21 million. We employ 120 scientists, engineers and technicians in Core Research, and Product & Process Development.



Core Research, based at our Global Research & Development Centre in Sydney, Australia, develops the technologies that will allow us to create the next generation of products and production processes.

Product & Process Development units in Sydney and in Fontana, California, transform these technologies into new products that meet specific market needs, and into new and more efficient ways of manufacturing our products.

Our research and development work is aimed at extending our global fibre cement leadership in areas such as:

- > engineered raw materials
- > proprietary product formulations and
- > new engineering and manufacturing process technologies.

Our goal is to develop lightweight and durable products for all climates, and for all parts of a building, from external walls, to trims, soffits and roofs to internal walls, floors and ceilings.

By developing new and innovative ways for fibre cement to replace traditional materials, we can expand the market for fibre cement and command a large share of fibre cement sales.

Recent examples of this strategy include:

- > the new technology that is being used to trial the manufacturing of a new fibre cement roofing shake for the large USA market
- > a new, thicker and lightweight trim product being sold as a replacement for wood in the USA
- > a new, thicker and lighter weatherboard, Linea®, which was recently launched in New Zealand
- > the thinner, lighter HardiFlex® lite ceiling sheet developed for the Philippines as a substitute for plywood
- > improved accessories and more dimensionally precise fibre cement sheets for use in commercial facade systems in Australia.

Over the past ten years, advances in process technology have allowed us to build new plants significantly faster and at a lower cost than our competitors. We have also been able to significantly reduce the incremental cost of additional capacity at existing sites.

At the same time, we have reduced the cost of key raw materials by improving yields and developing alternative sources of high quality, low cost fibre.

Fibre cement opportunities for the future

Fibre cement is gaining market share wherever we compete. The gains we have already made in research and development give us confidence that there are still many significant worldwide opportunities for fibre cement.