On Vinyl

July 2010

Backing Vinyl achieves 'Excellence'

Vinyl's versatility in providing an aesthetically modern look for healthcare facilities is winning over clients of architectural firms in the UK as well as meeting sustainability goals.

In two new state-of-the art hospital projects, London architects at HOK selected vinyl flooring products because, not only do they achieve an "A" rating in the UK's Building Research Establishment (BRE) Green Guide, but they also meet the clients' briefs to create modern, vibrant healthcare spaces.

At the Royal National Orthopaedic Hospital's (RNOH) central London Outpatient Assessment Centre – officially opened in April 2010 - the design was deliberately aimed at creating a welcoming, bright and airy facility but with sustainability in mind. Significant consideration was given to the flooring materials to ensure they met the design brief, infection control and maintenance requirements.

The completed Outpatient Assessment Centre spans three floors and boasts modern healthcare facilities including clinics, imaging (both X-ray and ultrasound), orthotics, occupational therapy, physiotherapy, pre-operative assessment and plaster.

A minimum design life of 12 years was required for internal fixtures and fittings and all materials needed to comply with the project's environmental and sustainability requirements.

A range of vinyl sheet flooring, wood effect vinyl sheet, vinyl slip resistant flooring, anti-static vinyl and cushioned vinyl flooring products were selected as well as high performance vinyl wall coverings.

Because the architects and designers at HOK were aware that, rightly or wrongly, there has been debate about the environmental credentials of vinyl products, the decision to go ahead with vinyl was based on considered review and analysis of vinyl flooring's performance compared to alternatives. This included the client, RNOH, also consulting with facility managers at other healthcare facilities using vinyl and alternatives to assess maintenance and durability.

Under the NHS Environmental Assessment Tool, the Outpatient Assessment Centre project has scored an "Excellent" rating. The tool assesses and scores the building project's performance against indicators for Management, Energy, Transport, Water, Materials, Land Use & Ecology, Internal Environment, Pollution, Social and Operational Waste.

HOK is currently developing the interior design for the new London International Hospital, a refurbishment of the former Royal Masonic Hospital's art deco building. HOK's Senior Associate, Alison Wagner said, "Vinyl is everywhere for this project as we have to manage infection control as well as achieve a contemporary look for the client." The hospital, to be completed in 2011, will be a private cardiac and cancer center.

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PVC Scenarios: One Year On

Just over a year ago, members of the PVC industry and its stakeholders joined a workshop facilitated by KMPG with funding support from Sustainability Victoria to develop plausible scenarios of the future of the PVC industry in Australia.

Developed around key factors or drivers shaping the industry's future, three short narratives articulate feasible future scenarios for the industry:

• Disillusionment, where there is little strong direction from either government or industry on key issues and perceptions of PVC products in the market are negative. The industry is increasingly fragmented, no investment occurs and businesses diversify into other sectors as market share declines.

• Today Tomorrow, or the status quo, with no major break-throughs in terms of technology or recycling but the industry achieves steady growth, eco-efficiency improvements and some new investment.

• Re-generation where opportunities are grasped by a cohesive, pro-active industry. Negative perceptions of PVC are addressed through better engagement with stakeholders and industry action, and innovative PVC products are developed, attracting further research and investment.

Taking the scenarios into account, the Vinyl Council Board has reviewed and revised its long term strategy, with a particular focus on addressing the perceptions and reality of PVC recycling in Australia. Our core purpose is to influence positively the sustainable future of PVC by working with stakeholders to advance the industry in Australia. Improving recycling opportunities is seen as a key driver of improving sustainability of the industry.

The release of best practice environmental performance guidelines by the Green Building Council earlier this year after nearly two years of engagement with the industry, gives recognition to the industry's product stewardship initiatives and encourages further advancement in supply chain sustainability going forward. More importantly, it provides new opportunities for stakeholder interaction and a level playing field for PVC products to compete on their own merits in the green building sector which we hope will encourage investment and product development.

New aspects for inclusion in the Product Stewardship Program are currently being considered by the Program's Technical Steering Group to embed sustainability further into the supply chain. The Program remains an active and vital part of the industry's initiatives.

The scenario planning has led us towards a clear aspiration for the industry's future that will lead our strategies and activities going forward, informed by broader and improved engagement with key stakeholders.

PVC Recycling effort a winner at Vancouver Winter Olympics

The Canadian vinyl industry can be proud that it has contributed to the greening of the 2010 Vancouver Olympic Games, following collaboration with companies 3M Canada Company and Mannington Commercial.

Approximately 200,000 square feet of vinyl graphics were used on Olympic buildings, such as the Richmond Olympic Oval and the Pacific Coliseum's outdoor venue grandstands.

Once the last medals were awarded, a major vinyl recycling effort took off. 3M Canada Company was the official supplier of building and vehicle vinyl wraps for the 2010 Olympic Winter Games and looked for ways to reclaim the wraps after use for recycling.

The Vinyl Council of Canada working closely with 3M Canada introduced them to Mannington Commercial, a vinyl flooring company with a track record of vinyl recycling projects.

All of 3M Canada's vinyl graphic material from the 2010 Olympics has been diverted from landfill and is being remanufactured by Mannington into floor tiles, popular in commercial healthcare, education, and retail applications. The product is certified as an Environmentally Preferable Product.

Dave Kitts, Manninton Vice President-Environment, said, "One of the simplest ways to conserve resources is to reuse what you can. We've found second lives for many flooring products and were intrigued by the opportunity presented by 3M Canada.

To recycle the flexible vinyl wraps, the material is ground into fine pieces, evaluated for colour, and measured and added to a limestone mixture. It is then blended and heated to desired consistency and sent through large rollers to form long sheets. The sheets are then broken up and combined with other colour-controlled lots. Then, the final mixture is blended, reheated, and rolled out to yield sheets of desired patters, and stamped to create flooring tiles which are packaged and ready for sale.

3M Canada considers this recycling program a significant step in the right direction for creating a positive environmental shift in its industry.

PVC Product Manufacturers Verifying Best Practice

Since our last edition of "On Vinyl", the Green Building Council of Australia (GBCA) has begun implementing the new PVC Credit in its Green Star building rating tool, with effect from 7 April. All construction and refurbishment projects seeking Green Star certification will now be able to seek up to two points for their PVC use under the new PVC Credit.

The PVC Credit will encourage use of PVC products in the most common applications – pipe, fittings and conduit, cable, flooring and resilient wall coverings – that achieve best practice performance in the life cycle of the product.

Up to two points are awarded where a percentage of these PVC applications (by cost) are independently verified as compliant with the Best Practice Guidelines for PVC in the Built Environment. The Guidelines relate to the life cycle of PVC products including

- chlorine production;
- vinyl chloride monomer;
- waste, water, air and product emissions;
- stabilisers and plasticisers, and
- end of life product stewardship.

Product manufacturers will need to provide third party verification that their products meet the criteria. The verification compliance process is currently being developed; until this is released, the GBCA will accept an interim measure based on a Manufacturer's Declaration of compliance.

For more information about the new PVC Credit, the verification requirements and how to identify compliant product, visit the the PVC Credit Toolbox at www.vinyl.org.au or see the Materials Category of the GBCA website at: www.gbca.org.au

Photo:The vinyl building wrap on the Olympic Countdown Clock is the world's largest Canadian flag.© Photo by KK Law.

Did you know?

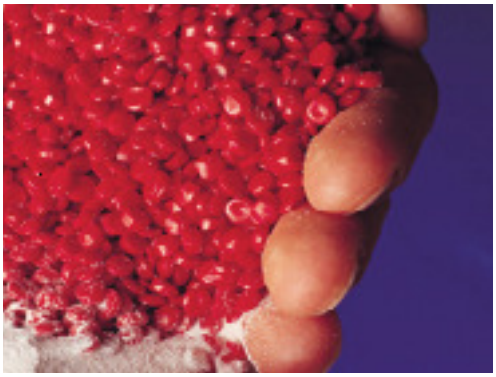
Four facts about chlorine chemistry

1 Through the electrolysis of salt, three of the most common chemical building blocks are produced: chlorine, sodium hydroxide and hydrogen

2 Chlorine chemistry has become essential to modern life. It helps manufacture thousands of products critical to health, safety, energy efficiency and innovation, from pharmaceuticals to telecommunications and electronics

3 Durable, chlorine-based building and construction materials such as vinyl help conserve energy, through their excellent thermal properties

4 Sodium hydroxide, or caustic soda, is a fundamental input into the production of lightweight aluminium building products and packaging.



PVC Product Stewardship commits to mercury avoidance

Signatories to the Australian PVC industry's Product Stewardship Program are committed to removing toxic heavy metals from the PVC life cycle and have made real progress.

Back in 2002, when the Program was launched, the companies committed to phase out the use of cadmium and lead stabilisers by 2004 and 2011 respectively. The use of cadmium stabilisers ceased by June 2004.

The recently completed annual survey of Signatories indicates that consumption of lead stabilisers has now fallen by 95% between 2005 and 2010. Program Signatories are on track to complete the phase out by the end of this year.

Taking this commitment further, during 2009, the industry gave consideration to avoidance of mercury in upstream manufacturing processes. Under a newly agreed commitment commencing in 2010, Signatories will seek to ensure that the monomer, vinyl choride (VCM), is derived from mercury-free production processes.

Chlorine, which is used in the manufacture of ethylene dichloride to produce VCM, is produced in some plants around the world using an older, mercury cell-based technology. This is a process that is gradually being replaced worldwide by safer, improved technologies such as membranes.

Today, the global chlorine industry accounts for less than 1 percent of total emissions of mercury. Nevertheless, Signatories commit to avoid sourcing resin derived from mercury-cell chlorine plants.

The other potential source of mercury emissions in the PVC life cycle is from the use of mercury catalysts where the acetylene-carbide process is used to manufacture vinyl chloride. The alternative VCM manufacturing process is based on an ethylene route. The production of VCM via acetylene and calcium carbide is based on coal. The acetylene route has been phased out in most industrialized countries because of environmental and cost factors.

Signatories to the Australian Product Stewardship Program have agreed to verify, via their suppliers, that imported VCM or PVC resin is sourced from mercury-free processes.

PVC supports 'The Diva' in the World Cup

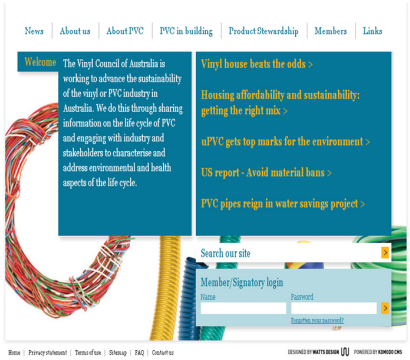
A vast, light-weight woven PVC-mesh plays an integral role in Cape Town's new USD600 million World Cup stadium.

The uniquely designed football stadium roof has a structure which, when flat, resembles a bicycle wheel, open in the middle. Using radial truss systems and cables to raise the structure from the ground, the suspended, undulating roof has a clear membrane skin on the interior and an immense glass covering. Woven PVC panels under the glass soften the noise from within but allow light in.

The PVC is tear-resistant and enables technical elements such as a public address systems and lighting to be integrated as well as offering weather protection and sound insulation. Together with the stadium façade of woven fibreglass, when lit up at night it creates the effect of a rose-coloured bowl floating on a base.

A host of features designed to make them environmentally and economically sustainable have been incorporated into the 68,000 seat stadium. The Stadium has been affectionately referred to as 'The Diva of Cape Town' due to its ability to reflect the constantly changing moods of the city in varying weather conditions.

Photo: © Mike Metelerkamp



PVC Credit Toolbox

A Toolbox has been developed to provide information about the revised PVC Credit in the Green Star building rating tool and to find product.

The Toolbox consists of useful facts about the Green Building Council's Revised Interim Measure for evidence of compliance and offers links to the literature relating to the new Credit.

The following information is available:

- Green Star PVC Credit
- A Q&A document 'PVC and Green Star'
- Background and Outcomes of the Green Star PVC Minimisation Credit Review
- Literature Review & Best Practice Guidelines for the Life Cycle of PVC Building Products
- Best Practice Guidelines - Extract of sections 7.1-7.3

A register of Vinyl Council Members with products that relate to the PVC Credit is listed. Visit the Members' websites or contact Members directly to identify available compliant product under the Interim Measure.

If you have further questions about this new approach please email the Vinyl Council of Australia at PVCCredit@vinyl.org.au or visit the PVC Credit Toolbox on the Homepage of the Viinyl Council's website.

www.vinyl.org.au

European industry engages The Natural Step

In recent months, members of the European industry have been meeting to discuss the evolution of Vinyl 2010, their voluntary commitment program which comes to an end this year, into a new program for the next 10 years.

Vinyl 2010 has been largely successful and there is much for the industry to be proud of. Established in 2000, the voluntary program included promoting and increasing vinyl recycling and set what, at the time, seemed a 'stretch' target of recycling 200,000 tonnes of PVC per year across Europe (over and above recycling that occurs as a result of existing regulation such as WEEE and packaging).

Through its concerted efforts and initiatives, such as Recovinyl, around 186,000 tonnes of PVC were recycled in Europe in 2009 and the 200,000 tonne target for 2010 looks set to be met.

At its instigation, Vinyl 2010 was about industry survival in the face of growing threats of regulation and restrictions on its licence to operate. Today the story is quite different and the industry's commitment to sustainability has been recognised.

The European PVC industry association, ECVM, is now drawing up a follow-on commitment, Vinyl 2020 and considering new targets and goals. Industry will continue the development of a common understanding with stakeholders, but has identified the need also to ensure broader engagement with internal stakeholders across the sector, particularly smaller companies and "free riders". To assist the process, it has called upon The Natural Step organisation to conduct workshops with key stakeholders both within and outside the industry,

The next ten years

Vinyl 2020 needs to be a sound commercial proposition. Three industry taskforces have been established, one, to examine waste projections for 2020; a second, looking at potential funding systems for the program; and the third, future recycling system options.

There are many questions to answer during this process. For example, what new recycling target would be challenging yet achievable, and how can demand for recycled products be increased? It is crucial to ensure commercial viability of recycling and, as volumes increase, to develop viable new markets for the uptake of recyclate, which will be particularly challenging in the face of REACH requirements.

Today, the pressure is not simply on recycling PVC, although it is central to the industry's success going forward. Issues such as responding to REACH and carbon impact are now higher up the agenda, pressures not unique to PVC. Industry sees the need to develop market pull, for both recyclate and the products of those companies actively engaged in Vinyl 2020.

At a recent European industry meeting, much doubt was expressed about whether there has been any perceived market value or benefit in using recyclate in products.

Vinyl mural wall at London's Bolsover Hospital

The challenge going forward is for industry to develop strategies which raise awareness of, and promote the benefit of recyclate use, to encourage the market to recognise added value in recycling. Linking recycling to carbon impact, and demonstrating the carbon-saving benefits of recycled products may make this possible.

With Vinyl 2020, the European industry has an opportunity to demonstrate again its leadership in the area of sustainable industry development.

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