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Case Studies Uses for Fire Retardant Coatings

Fire Retardant Coatings are used successfully in both regulated and voluntary situations. Fire retardants are of particular interest to both manufacturers and retailers. **SafeCoat** products can reduce flame spread ratings and improve the marketability and value-added aspects of their products.

Intumescent and fire retardant coatings are commonly used in many areas of building construction. Some examples of the versatility of these products include:

- Protection of Structural Steel in high-rise and commercial construction
- Bulkheads in aircraft cargo areas and large cargo ships
- Flame reducing agent on flammable materials in hospitals, shopping centers, nursing homes etc. in the form of decorative pigmented coatings and paints.

Most of these applications are listed with the ASTM or UL manuals and the Construction Specification Institute (CSI).

Several of the most innovative applications evolve around the use of intumescent coatings in areas where application is voluntary, rather than mandatory. One example is at the Ontario Hydro Construction site in Bowmanville, Ontario.

At this site, (Darlington, NGS), a fire safety committee identified a potential threat of serious loss in the event of a fire in the multi-story scaffolding used throughout the site. This project identified personal safety as a high priority. In addition, it was arguably the most technically demanding project in the world to date. Another pressing concern was the potential setback or delays in the various completion dates for each stage of the project that would result from a fire. In order to minimize the potential for a serious

threat, the Fire Safety Committee and the Senior Fire Prevention Engineer started a review to determine if there were other more practical and cost-effective alternatives to wood at the site. The review concluded that metallic scaffolding materials were considerably more expensive, less flexible to use and store, and conducted electricity. Intumescent paints were deemed effective as fire retardants but were unacceptable to Workers Compensation Board and Labor Canada since they obstructed the grain of the wood and could lead to dry rot.

The answer came from a small company in Mississauga, Ontario that manufactured a clear wood finish. The finish was a fire retardant and permitted the wood to breathe. This characteristic eliminated the threat of dry rot. As a means of simplifying application, the paint shop foreman and the scaffolding foreman had several large troughs fabricated. Then all dimension lumber was dipped, and all sheeting materials were sprayed.

Mr. Tom Smith, the Senior Fire Prevention Engineer for Ontario Hydro, said, "When you consider the project costs and that the Hydro is essentially self-insured, the purchase and use of these types of finishes, as means of reducing risk, is a matter of good business judgement on the part of the project management team." On review of this innovative, voluntary application, this approach to risk management could have significant importance in larger projects in the future.