

## Project Profile - Buildings & Commercial Construction



### PROJECT

**French Fry Plant, New Brunswick, Canada**

### SUMMARY

Concrete repairs and coating of external walls totalling 2,000m<sup>2</sup>

### PRODUCTS

**Biodex Wash, Steel Reinforcement Protector 841, Monolite, Monodex UVC, Cemprotect GFM 225**

### CLIENT

Leading manufacturer of frozen potato products

### CONTRACTOR

RCJ Concrete Restoration & Coatings

### BACKGROUND ►

This project was carried out on behalf of one of the world's leading producers of processed foods. The company operates a French Fry Plant in Grand Falls, New Brunswick, which was originally constructed in 1970 and it now has an annual production for the facility of 86 million kg of French fries.

The walls are constructed from precast concrete structural wall T sections, which are insulated sandwich construction with 50mm rigid insulation and a 50mm interior concrete liner. An Engineer's report in 2013 concluded that the overall structural system was still in good condition but there were areas of deterioration in the exterior T-sections where cracking and spalling was evident. Whilst of no immediate concern, it was felt that it would become a serious structural threat if left untreated.

### THE SOLUTION ►

Flexcrete's Canadian distributor, RCJ Concrete Restoration & Coatings Inc. proposed the use of products from Flexcrete, having used them successfully on several projects previously for this food producer. As the substrate was heavily contaminated with fatty acids and micro-organisms were present in the pores of the concrete, the surface was first treated with **Biodex Wash** which neutralises active mould, fungal and bacterial growth. **Steel Reinforcement Protector 841** was then applied to the re-bars and due to the significant depth of repair needed to the concrete T sections, **Monolite**, an ultra-high build, lightweight cementitious mortar, was used as its low sag properties enable it to be built up to 100mm in a single application, even on these vertical surfaces. To assist in replicating the original line of the member, a timber form was used along the sides of the repair.

Following the repairs, **Monodex UVC**, an advanced, waterborne, UV cured acrylic coating, was applied to the external walls. The surface of the applied liquid coating cures by using a chemical process called cross-linking. This is initiated by exposure to UV radiation to form a tough, hard-wearing surface with excellent weathering resistance but with a softer underlying core which is highly elastomeric, enabling it to bridge cracks which may exhibit future movement.

Supplied as a single component product, **Monodex UVC** is especially suited for use in the extreme climatic conditions found in New Brunswick. It is able to accommodate thermal expansion and contraction in structures without cracking, even in extreme temperature conditions ranging from -50°C. to +80°C. It also contains the latest encapsulated biocide technology to prevent mould growth whilst a highly dirt resistant finish means it maintains an attractive appearance throughout its lifespan. It provides excellent protection against the damaging effects of carbonation and will last at least 15-20 years before first maintenance is required. In areas highly susceptible to cracking, the coating was reinforced with **Cemprotect GFM225** glass fibre matting. Crucially for this project, **Monolite** and **Monodex UVC** are both waterborne and virtually odourless, so there was no risk of foodstuffs being contaminated in the processing plant.



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