

UP FOR THE CHALLENGE

The expansion joint experts at SITURA Inc. design airtight seals with flexible joint solutions.

By Larry Bernstein

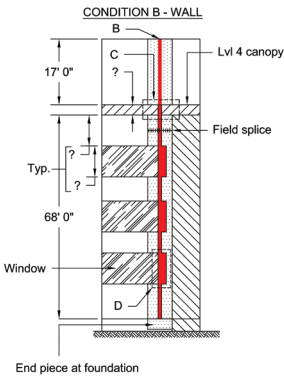
It has been two-plus years since the 457-bed acute care **Oakville Trafalgar Memorial Hospital** opened its new location in Oakville, Ontario. Building the 1.6-million-square-foot hospital presented some construction challenges—including the sealing of appropriate expansion joints. While expansion joints were a minor item in the overall construction, getting it right was imperative.

EllisDon, a multinational construction services firm that can take a project from finance to construction to facility maintenance, served in all three capacities for the Oakville hospital. Because the main elevation of the hospital is facing the main street, the designers didn't want the expansion joint front and center. "They tucked the expansion joint into the side of the building, where it is less visible and not the center role for aesthetic reasons," says **Denise Flemming**, a project manager with EllisDon who served as the quality control manager on the project. The decision resulted in a complex set of expansion joints that bisected the main tower from the rest of the hospital.

The total length of the hospital equals about two football fields, and the expansion joints had to span the entire area. This meant cutting across various critical building envelope elements, including the roof, curtain wall, precast,



SITURA INC. provides site support to ensure expansion joints are properly installed and fitted.



and waterproof terraces. **Adamson Associates Architects** worked with **Parkin Architects Limited** to design the Oakville hospital, and due to the complications associated with the expansion joint, Adamson turned to **SITURA**.

EXPERT KNOWLEDGE

SITURA Inc. offers a full line of waterproof expansion joints—from RedLINE® for liquid applied membranes to FlamLINE® for torchable, and self-adhered membranes. Their flexible joint protection solutions help buildings maintain their integrity in harsh weather conditions and create airtight seals against the elements all while maintaining a desirable design aesthetic. Internationally recognized, SITURA has been a leading manufacturer of waterproof expansion joints for more than 20 years, providing quality assurance and reliability for monolithic, zero profile, maintenance free expansion joints in commercial and industrial roofing and waterproofing.

Adamson has worked with SITURA on several projects in the past. “We contact them when complex technical issues arise,” says **Rob Beraldo**, a project manager for Adamson.

The Oakville project wasn’t the last time Flemming and EllisDon worked with SITURA either, having worked on several projects with EllisDon both before and after the hospital. “The [Oakville] project required very difficult expansion joint solutions, and SITURA was the only company who could handle it,” Flemming says.

SITURA has been 100% focused on expansion joints since the company’s establishment in 1996. “All of our joints are custom-made for each project to ensure a perfect fit to the joint configuration onsite,” says **Steeven Lapointe**, SITURA’s technical director. “All of the turns and transitions the joint takes onsite are prefabricated into the SITURA joint, and all of the fabrication takes place in factory conditions to ensure a consistent quality.” Additionally, the flat profile of the SITURA joint allows water to flow across it—avoiding the ponding



effect traditional raised expansion joints create, which can be detrimental to the membrane. This is particularly helpful when used on roofs or plaza decks.

The joints are installed into the roofing or waterproofing membrane (the flanges on each side of the joint are completely encapsulated into the membrane). This ensures a 100% air and watertight joint seal, as opposed to traditional methods of sealing joints (metal flashings, or other types of prefabricated joints), which are really just “covers” over the joint. “Our joints are also fabricated and installed in a single piece,” Lapointe says. “This means no patches or sealants to seal the various parts together onsite. This provides a longer service life and prevents the elements, movement, or other factors from degrading the joint.”

The SITURA expansion joint is made of a proprietary elastomer, so it moves naturally in all three dimensions. “Because of the way the expansion joint is applied, there is no way to delaminate it, and there is no air or water infiltration,” Flemming says. “This is important for long-term durability, and it solved all the problems [related to the complex expansion joints] at the Oakville hospital.”

CUSTOMIZATION IS KEY

Typically, SITURA gets involved in projects while the architects are in the design phase. In the case of the Oakville hospital, SITURA visited the construction site to custom design the expansion joints. Flemming not only appreciated this service, she found it increased

efficiency. “Because SITURA came to the construction site, they had a complete understanding of what they were dealing with. The custom-built expansion joints made for an easier and quicker installation process.”

But even with customized production, sometimes modifications have to be made, particularly when it’s a project as complicated as the Oakville hospital. Three main joints were needed for the project, but they were made up of many parts that had to go between buildings. Fortunately, SITURA also provides site support to make sure expansion joints are properly installed and fitted. This was especially helpful in Oakville. “One particular joint had to be modified, and Steeven [Lapointe] came down to the site and sorted through the situation. He ended up providing us with a temporary piece and came back later to finish it off,” Beraldo says.

QUALITY GUARANTEED

SITURA guarantees their waterproof expansion joints, which provide an airtight seal and allow for the natural shifting and structural movement of buildings for 20 to 25 years. SITURA’s RedLINE®, FlamLINE® and AqualINE® expansion joints are designed to last as long as the membrane they’re installed into while offering a high degree of resistance to specific chemicals. Ultimately, nearly 1,000 feet of SITURA’s expansion joint went into the construction of the Oakville Trafalgar Memorial Hospital, but SITURA made the complicated and challenging construction easier. **gb&d**