

Education facilities maintenance issues arise at all education levels, from kindergarten through postsecondary, and at all site types, from classroom and athletic facilities to administrative offices.

Education facilities maintenance goes beyond the protection of high capital investment. Most importantly, the school facilities management’s focus is to provide a clean and safe environment for children that is adequate and appropriate for learning.

Education facilities issues affect teaching and learning process, student and staff health in a short term, and the entire fiscal health of an education organization in a long term.

Belzona has been showing success and reliability in the repair, maintenance and safety of the education facilities in the areas including but not limited to:

- *Roofs and roofing elements: skylights, gutters, parapet walls*
- *Walls*
- *Floors, stairs, ramps, parking lots, sidewalks, entryways*
- *HVAC: boilers, air handlers, diesel engines, fans, pumps, condensers, generators, compressors*
- *Pipes and pipework*
- *Elevator systems*
- *Athletic facilities*
- *Curbside Appeal*
- *Auxiliary systems: waste management, power generation, data storage*

Examples of Belzona Applications at Education Facilities



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ISO 9001:2008
Q 09335
ISO 14001:2004
EMS 509612

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This diagram of a typical educational facility is designed based upon data retrieved from various sources. It is to be used as general guidance only. It describes the most common repair and maintenance problems found in educational facilities together with Belzona solutions which could potentially help mitigate such problems. It does not aim to supersede any drafted process flow charts in use at these facilities. It is strongly recommended that each user of this guide contact the local Belzona representative to discuss the specific needs and operation conditions of their educational facility.

ROOFS

TYPICAL PROBLEMS: Weathering and/or physical damage to roofs and roof parts: joints, seams, edges, glazing sections, gutters, flashings, skylights, parapet walls and copings, pipes and pipe supports. The damage is typically caused by weather and freeze-thaw cycles, failure of roof materials, substrate movement or impact.

POTENTIAL SOLUTIONS: Belzona 3000 series fluid-grade membranes for weatherproofing, waterproofing, repair and protection of all roof types and roof parts.

FLOORS

TYPICAL PROBLEMS: Damage of concrete floors and structures due to weather fluctuations, chemical attack or physical impact, slippery transit areas, expansion joints failure.

POTENTIAL SOLUTIONS: Belzona 1000, 2000, 4000, and 5000 series paste- and fluid-grade materials for floor slip resistance, safety markings, concrete restoration and levelling, expansion joints repairs, new floor installation in kitchens, dining halls, student recreation rooms, entryways, parking lots, laundry facilities, mechanical rooms, loading docks, swimming pools, stadia, all types of athletic facilities, waste and water management plants.

PLUMBING AND PIPEWORK

TYPICAL PROBLEMS: Erosion-corrosion and chemical attack related to the use of water filtration chemicals: chlorine, charcoal, water softeners on pipes, pipework, pumps, filtration systems and storage tanks.

POTENTIAL SOLUTIONS: Belzona 1000 and 5000 series 100% solids paste- and fluid-grade materials for metal rebuild and corrosion protection of (non) potable water pipes, pipework and storage tanks.

DATA STORAGE FACILITIES

TYPICAL PROBLEMS: Corrosion-erosion damage to the components of air-conditioning units and power generators.

POTENTIAL SOLUTIONS: Belzona 1000, 3000 and 5000 series 100% solids paste- and fluid-grade materials for metal rebuild and corrosion protection of the air-conditioning units and power generators.

CURBSIDE APPEAL

TYPICAL PROBLEMS: Concrete damage due to weather fluctuations, freeze-thaw cycle, physical impact.
POTENTIAL SOLUTIONS: Belzona 4000 and 5000 series paste- and fluid-grade materials for the concrete restoration and protection on decorative structures and bases (fountains, waterfalls and monuments) concrete levelling, floor protection and slip-resistance on pedestrian walkways and at the base and around stop bollards and other safety structures.

WALLS

TYPICAL PROBLEMS: Deterioration of concrete and stonework, and construction joints failure due to erosion-corrosion, chemical attack, physical impact, and structural movement.

POTENTIAL SOLUTIONS: Belzona 2000, 4000 and 5000 series paste- and fluid-grade materials for waterproofing, concrete and stonework rebuilding and protection of the external and internal walls, and for the repair, replacement or installation of construction joints.

HVAC SYSTEMS

TYPICAL PROBLEMS: Erosion-corrosion damage to components of HVAC units.

POTENTIAL SOLUTIONS: Belzona 1000, 3000 and 5000 series paste- and fluid-grade materials for metal rebuilding and erosion-corrosion protection of boilers, air handlers, diesel engines, fans, pumps, condensers, generators, compressors.

ELEVATOR SYSTEMS

TYPICAL PROBLEMS: Corrosion, physical impact from heavy foot traffic, and movement.

POTENTIAL SOLUTIONS: Belzona 1000, 4000 and 5000 series paste- and fluid-grade materials for the repair of and protection of rotating equipment, elevator floors and edges, for the concrete restoration, waterproofing and protection of elevator pits.

POWER GENERATION

TYPICAL PROBLEMS: Mostly corrosion problems related to elevated pressure and temperature on boilers, steam turbines, heat exchangers, and pipework
POTENTIAL SOLUTIONS: Belzona 1000 and 5000 series paste- and fluid-grade materials for metal rebuild and erosion-corrosion protection on solar panels, transformers, generators. Belzona 6111 fluid-grade material for the cathodic protection on solar panels supports and other metallic structures.

WASTE MANAGEMENT

TYPICAL PROBLEMS: Erosion-corrosion to metal structures, and concrete damage due to freeze-thaw cycle, physical impact, chemical attack.
POTENTIAL SOLUTIONS: Belzona 1000 and 4000 series paste- and fluid-grade materials for the metal rebuild and corrosion protection of metal railings, tracks, platforms, lifts, and trucks, and concrete restoration, levelling, and protection of trash pads and floor.