WASTE, RECYCLING & ENVIRONMENTAL

excellence in engineering

BMT GROUP

Official Representative Of

RUBB Building Systems

Rubb's innovative waste, recycling and environmental facilities are custom designed to suit our clients' needs.

Rubb Buildings Ltd is a leading provider of tailor-made waste, recycling, and environmental facilities. We work closely with end users to ensure our building designs incorporate the most efficient use of available space.

Rubb has delivered many high quality waste, recycling and environmental solutions across the world.

Rubb's tensioned fabric structures are strong, durable, reliable and cost effective. Our products feature the highest quality materials. Hot dip galvanized steel frames and premium quality PVC ensure that our fabric facilities are built to last.

Rubb buildings meet the high demands of the waste, recycling, and environmental sectors - they are robustly engineered to stand up to tough climatic conditions and can be erected quickly at remote locations. Rubb offers a wide range of facilities suitable for temporary or permanent building solutions.

Rubb structures have unparalleled engineering and design capability to provide customized solutions to complex project needs including high wall buildings and liftable buildings.

With custom design and proven fabrication any application is possible. Rubb's durable design and corrosion resistance are well suited to these sectors.

Rubb has the capability and experience to design, manufacture, deliver and install custom structures.

With Rubb, you can be sure everything is under control from concept to completion—including cost, quality and delivery.

While we generally have the right standard structure available to meet project needs, Rubb can also design custom solutions to meet special requirements. We have the in-house resources to provide a cost effective solution customised to our clients' needs.

Design
Using proven engineering software, we can tailor the project to the specific requirements of the site, type of operations and logistical needs.

Production
Steel and membrane components are fabricated with proper equipment and quality control.

Installation
Pre-engineered and pre-fabricated to make on-site installation by a Rubb crew—or your crew— go smoothly and efficiently.

Structure doors
Rubb offers a variety of different door solutions. They can be selected and designed to suit many size and opening requirements. This flexibility ensures that our clients get the best option for their selected Rubb building type, depending on their operational needs.

Advantage Points

Low maintenance and costs
Our high-quality membrane materials and post-production galvanized welded frames deliver durability over time, making the cost of maintaining Rubb buildings more economical compared to conventional structures.

Energy-efficient roof membranes
Translucent membranes allow natural daylight to illuminate the workspace while the white roof surface reflects heat. Optional Thermohall® insulation minimises heat transfer, prevents condensation and virtually eliminates thermal bridging and air infiltration.

Structure quality
All structures are code compliant, designed to meet wind and snow loadings of its geographical location. Rubb PVC fabric cladding has a manufacturer's warranty of 10 years. Steelwork is hot dip galvanized in post production to eliminate any chance of corrosion, and comes with a 25-year warranty.

Multiple door options
Rubb offers a variety of different hangar door solutions. They can be selected and designed to suit many size and opening requirements. This flexibility ensures that our clients get the best option for their selected Rubb building type, depending on their operational needs.

Complete environmental control
The membrane cladding of a Rubb building is continuously sealed to provide a weather-tight shell. The buildings can be insulated, heated or air-conditioned as required. Rubb structures are uniquely suited for use as dehumidified facilities.

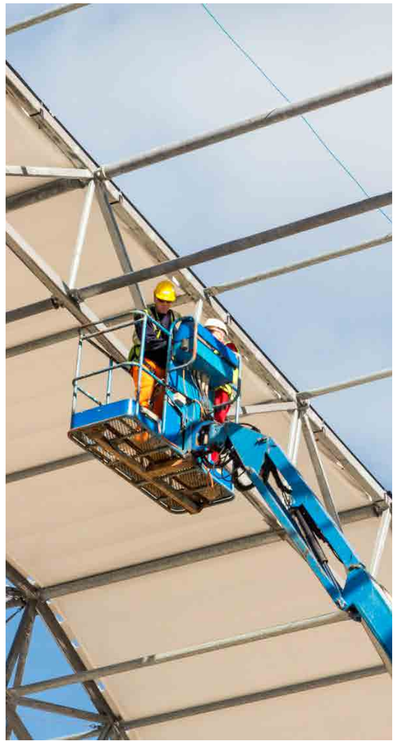
Reduced time on-site
Our established supply chain streamlines coordination of delivery and installation. Pre-fabricated elements and the ability to construct our buildings in a variety of weather conditions speeds up the construction process.

Rapid construction, installation and relocation
Rubb buildings can be quickly erected, dismantled and relocated due to module pre-fabrication. Rubb can provide site supervisors or fully dedicated construction teams to complete any custom project. Structures are transportable by land, sea and air.

Flexible and cost-efficient foundation systems
Rubb buildings can accommodate many foundation options such as concrete up-stand, ballast weights, and ground anchors into an existing surface. Rubb's co-ordination with the groundwork contractor is key for the client to reach the most cost-effective solution.

Customisable features
Buildings can accommodate all types of door, ventilation and other systems. They can safely support high loads imposed by overhead cranes, ceiling-mounted HVAC and fire-suppression systems, fall-protection equipment and other superimposed loads.

Comprehensive long-term service
Rubb personnel are on hand to provide help and support, from initial contact and quotation, to installation and beyond. Rubb's commitment to customer service continues after project completion and forms the basis for long-term customer satisfaction.



Water Treatment Liftable Cover

12.55m (41.2ft) span x 30.7m (100.7ft) long CXB
United Kingdom

One of the UK's most fast-growing facilities management service providers needed to replace an existing water treatment cover at their plant in the UK.

The Rubb liftable cover project was a high priority, as the existing water treatment cover had deteriorated and needed to be replaced. Damage to the frame and cover (supplied by a different company) meant there was a risk of contamination, that the customer wanted to quickly eliminate. Rubb was tasked with creating a custom designed cover measuring 12.55m (41.2ft) wide x 30.7m (100.7ft) long. The structure required openings in the sidewalls and gable, through which existing pipe work could be incorporated. It was essential that this structure could be liftable and Rubb was able to meet this unique demand.

The structure type used in this project is a Rubb CXB. This structure design is more commonly used as a concrete curing cover or blanket. Having a very small leg height, this design is perfect for minimising the internal area, lowering the structure weight for moving and lifting and reducing construction time.

The CXB structure is modular designed, so it was very easy for the Rubb team to construct the custom water treatment cover on site, then lift it into place, working alongside a local crane hire company and the Norse Environmental Services team. The framework of the building is constructed using hot dip galvanized steel. The galvanizing process was performed after framework production to ensure maximum protection against corrosion and water contamination. Durable, lightweight PVC cladding was used to cover the liftable structure.

Veolia ES Waste Recycling Building

30m (98.5ft) span x 30m (98.5ft) long BVE
Hampshire, United Kingdom

Veolia ES Hampshire Ltd required a new temporary waste recycling building to handle the bulky items of civic amenity waste and road sweepings, totaling approximately 1,000 tons of municipal waste to be processed per week.

Rubb provided a BVE type building, measuring 30m (98.5ft) x 30m (98.5ft) with 9.5m (31ft) high sidewalls and five, 4m (13.1ft) wide x 5m (16.4ft) high roller shutter doors, allowing the flexibility for delivery and removal of material simultaneously. The construction included a 600mm (23.6ins) concrete upstand to provide anchorage for the waste and recycling facility, with steel hoops for fabric attachment, and steel plates for framework attachment. The upstand is also designed to be removed when the structure is dismantled without disturbing the existing surface.

Energy costs are lower because the need for artificial lighting is reduced in daytime hours thanks to Rubb's translucent roofing system. In addition, the heat reflectivity of the white roof surface helps keep the building cooler.

Based in Portsmouth, the building is located in between the existing Veolia Environmental Services operated Energy Recovery Facility and the Materials Recovery Facility. This means the new building is easily accessible from and between both sites.

The creation of the site allows Veolia to continue the innovative approach to waste collection, treatment and disposal ensuring that clients can take advantage of the most practical and sustainable waste management solutions.

Bryson House Recycling Plant

18m (59ft) span x 24m (78.7ft) long BVR
Northern Ireland, United Kingdom

Following the award of the largest recycling contract ever placed in Northern Ireland, staff at Bryson House Recycling Plant realised that they would urgently require extra waste storage facilities to house the vast quantities of un-sorted magazines, newspapers, bottles and cans.

The natural lighting supplied by the translucent roof membrane reduces the use for artificial lighting, which not only saves on energy costs but also provides a safer more efficient operating environment.

Director of Recycling at Bryson House, Eric Randall, commented "Rubb Buildings have been an excellent company to work with. Due to the demand for extra space, we needed a contractor who could supply a storage solution in a short period of time. We chose Rubb Buildings above their competitors due to their approach in offering a fast, cost effective storage solution."

Ballymena Waste Recycling Facility

24.5m (80.4ft) span x 32m (105ft) long BVI
Ballymena, Northern Ireland

Ballymena Council in Northern Ireland was looking for a highly efficient and proven answer when building a new waste recycling facility.

Rubb constructed a 24.5m (80.4ft) span x 32m (105ft) long BVI building with 8.2m (27ft) sidewalls.

The waste disposal station features a hot dipped galvanized steel frame with a high strength PVC coated membrane.

The cladding is dark green to the sides, with a white roof. This semi-translucent roof fabric provides a light interior for a safer working environment.

Viridor Compost Recycling Facility

30m (98.5ft) span x 25m (82ft) long BVR
London, United Kingdom

Rubb stepped in to create a compost enclosure for a leading recycling, renewable energy and waste management company after a replacement was required for an existing structure.

Viridor transforms waste into high quality recyclables, raw materials and energy. The company composts more than 300,000 tonnes of green and organic waste annually. It operates a number of In-Vessel Composting (IVC) facilities, which harness the natural composting process in enclosed tunnels. The process is much like a home compost bin, but on a larger scale.

Rubb completed demolition of the original structure, which had corroded due to the extreme internal temperature and environment in the IVC facilities. After the site was cleared, Rubb erected the new multi span tension membrane building upon an existing 3.5m (11.5ft) high retaining wall.

The 30m (98.5ft) wide building features six 5m wide IVC tunnels constructed using Rubb's signature galvanized steel frame and durable grey PVC fabric membrane covers. The steel frame was prefabricated at Rubb UK's plant in Gateshead and then hot dipped galvanized to prolong the life of the steel. The facility, which measures 25m (82ft) long, features a leg height of 3m (9.8ft). The Rubb team designed the structure to include six doors, which provide access to the front of the sealed IVC tunnels and customised the rear closed gable end to accommodate an existing network of multiple pipes which control the internal environment.

Viridor was able to maintain the live site and continue ongoing business as Rubb worked on the building project, which was completed in time for the composting season. Rubb also provided a solution to prevent Seagulls from occupying the roof area by introducing a netting system above the building.

Crewe and Nantwich Council Recycling Station

30m (98.5ft) span x 45m (147.6ft) long BVE
Crewe, United Kingdom

Crewe and Nantwich Borough Council required a waste recycling facility to handle operations for the household curbside wheeled bin collection programmes.

To accommodate the different activities a 30m (98.5ft) x 45m (147.6ft) BVE type building with a leg height of 6.5m (21.3ft) was constructed.

The waste is divided internally into four sections; each area is accessed via a 4.5m (14.7ft) x 4.5m (14.7ft) electrically operated roller shutter door.

The four internal areas in the waste and recycling station are critical in allowing the material to be deposited in the appropriate lanes, with the adjacent door being used by the out-going bulk transport vehicle to stand in while being loaded under cover.

The incoming/outgoing lanes are alternated each week in order to ensure no materials are left behind.

The Rubb waste and recycling facility is a part of the Curbside wheeled bin collection programme. This brings in co-mingled dry recyclables which are then sent to off-site materials recovery facilities, and separately collected newspapers and magazines which go direct to the paper mill.

Wellingborough Norse Waste Transfer Station

15m (49ft) span x 25m (82ft) long BVI
Wellingborough, United Kingdom

Wellingborough Norse contacted the Rubb team to request support in expanding waste and recycling activities at their Finedon Road Industrial Estate transfer station.

The Norse Group is one of the UK's most dynamic and fast-growing facilities management service providers. A section of Wellingborough Norse specialises in trade refuse collection. Their fleet of waste collection vehicles can provide general waste collection services in containers ranging from 1100 litre (242 gallons) down to 240 litres (53 gallons) wheeled bins. All waste from these containers is disposed of at their new fully licensed transfer station, which was designed and manufactured by Rubb.

This new waste transfer station measures 15m (49ft) wide x 25m (82ft) long. The leg height of the building is 8m (26ft) high to accommodate larger waste recycling trucks. The fabric building is strategically placed on site to allow a free-flowing system of waste collection vehicles in and out.

To gain extra clearance for the two 4m (13ft) wide x 6m (19.6ft) high roller shutter doors the building was constructed on a 1.1m (3.6ft) high concrete foundation upstand. This additional height also helps eliminate water ingress. The building is also fitted with two 1.1m (3.6ft) wide x 2.1m (6.8ft) high pedestrian fire exit doors.

The station is constructed with a hot dip galvanized steel framework to protect it against corrosion. The roof of the structure is covered in a white translucent PVC fabric allowing natural light to flood in, which creates a bright working environment. The sidewalls and gables of the building are clad with a heavy duty, long lasting grey PVC fabric, accompanied with colour coded gutters and downpipes.

Northumbrian Water Treatment Facility

26.35m (86.45ft) span x 67.63m (221.8ft) long BVI
Warkworth, United Kingdom

Northumbrian Water contacted Rubb with a requirement for an environmental protection structure to cover a number of water clarification tanks at Warkworth water treatment works.

The large environmental cover was custom designed to suit the existing layout of the tanks on site.

To accommodate the clarification procedure, a 26.35m (86.45ft) span x 67.63m long (221.8ft) BVI type building with a leg height of 3m (9.8ft) was constructed.

The building was also designed to take onboard all equipment and piping, which is fed in and around the tanks.

The building cover was constructed using green PVC to prevent algae growth within the tanks by limiting sunlight. This effectively reduced downtime for cleaning and speeded up the clarification process.

To sustain a comfortable environment, lowlevel mesh vents were constructed around the perimeter of the cover and roof vents were added to reduce the humidity

Dundalk Sewage Treatment Works Tank Covers

32.4m (106.2ft) diameter cover
Northern Ireland, United Kingdom

Rubb was tasked by Dundalk Sewage Treatment Works to come up with three custom designed tank covers with access platforms.

The treatment works centre is situated on the coast of Northern Ireland. As a result the facility faces the challenge of high winds resulting in strong odours drifting to the surrounding built up areas.

Rubb helped solve this problem by supplying Dundalk with three custom covers to suit the existing concrete walled tanks at 32.4m (106.2ft) diameters each. Each cover is constructed using hot dipped galvanized steel and high-tension fabric PVC coated material.

In this case the supporting spans were completely unique to each other, creating a real challenge for the Rubb design team.

However the end result was a custom designed site specific sewage treatment tank cover solution.

In house steel and fabric workshops provided Rubb with full control over the production process allowing for stringent quality control.

Thermohall® Insulated Fabric

Rubb's patented Thermohall® features a flexible insulated fabric system which offers major advantages over other insulating systems:

- Non-combustible glass wool is encapsulated in air and water tight pockets
- Insulation thickness from 50mm to 150mm
- No air gaps in the cladding, which reduces heat loss and helps eliminate condensation
- Buildings are fully relocatable

Development of Thermohall® started several years ago, with the goal of a new and eco-friendly insulation system. Thermohall® is now fully developed and patented. Thermohall® offers great energy savings and is environmentally friendly, both in fabrication and operation.

- Rubb uses a heavy duty PVC fabric with a long, useful life and high density, non-combustible glass wool insulation
- All the materials are recyclable. Steel can be recycled through various means and PVC can be recycled through initiatives which are part of the Serge Ferrari operational supply chain and environmental partnerships. The insulation material that Rubb uses is processed from recycled glass
- Rubb Thermohall® structures combine the best properties of both conventional buildings and fabric buildings, high thermal insulation and full relocatablity. All Thermohall® buildings can be delivered to suit our customers' insulation requirements

The outer membrane of a Thermohall® building is manufactured using the same high strength PVC coated polyester material used on Rubb's uninsulated buildings. These materials have a self cleaning exterior finish and feature coated weights ranging from 850g/m² to 950g/m² for most applications.

PVC battens are welded to the outer cladding panels at regular intervals and then to the inner fabric panels to create closed cells to hold the insulation. The +/-550 g/m² inner fabric is white, with a self-cleaning coating on the inside face.

Glass wool insulation sections are enclosed within the completed PVC assembly, which is then sealed to prevent movement of insulation and moisture from entering the cladding system.

Specification

Outer layer Flame retardant heavy duty PVC fabric

Core High density glass wool insulation

Inner layer Self-cleaning, PVC fabric

U-Values (R-Values) US approximate equivalent

Thickness	U Value (SI) W/m2K	R Value (US) ft2-°F-hr/BTU
50mm	0.67 W/m2K	R11
100mm	0.36 W/m2K	R19
150mm	0.25 W/m2K	R27

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