



APOLLO OFFSITE CONSTRUCTION ADHESIVES

Apollo has been working hand-in-hand with the offsite construction market from the outset. We were the first UK adhesive manufacturer to support the market with adhesive application, and have been supplying specialist adhesives into this innovative and developing market for over 40 years.

We have a wide range of products to suit your application or substrate, and can even work with you to develop a bespoke solution. All of our adhesives are rigorously tested for **performance** and **safety**, and have even been used to gain **BBA certificates**.

Our involvement in offsite construction includes:

- Structural insulated panels (SIPs)
- Volumetric modular buildings and pods
- Specialist offsite applications, including brick-slips, joinery and flooring.

You can be sure to find a proven product to meet your requirements, whether this is to **increase production efficiency, improve strength, reduce time onsite or minimise cost**. Alternatively, our experienced development chemists can work with you to develop a bespoke solution. Each technical employee has many years experience of working with customers to develop precise solutions for specific business problems.

More than adhesives



Technical & Quality



Sales & Marketing



Production & Supply Chain



Compliance

Our brand promise is to deliver **'More than adhesives'** throughout our entire supply chain – from technical, quality, production, supply chain, compliance, sales and marketing support. Our departments work closely together to provide you with an array of market-specific customer-support services.

STRUCTURAL INSULATED PANELS (SIPS)

SIPs are one of the fastest growing offsite systems and are becoming increasingly popular due to their sustainability and in-service performance credentials. Growing demand increases the pressure to produce SIPs solutions and, with Apollo's expertise in the market, we are involved in developing the next generation SIPs technology.



We have over 40 years experience of developing and manufacturing polyurethane lamination adhesives, specifically designed for the construction of SIPs and architectural panels. Our adhesives are proven to form strong weatherproof bonds between a wide range of materials, including OSB, plywood, aluminium, cement, steel, sheathing boards, mineral wool and polystyrene. We have something to suit all production methods, as well as solvent-free options.

Our adhesives have helped many leading SIP manufacturers transform their production processes, **reducing costs** and dramatically **speeding up production**.

Our SIPs Laminating Adhesives range includes: (A7510), (A7561), (A9756 A/B) and (A7532). Visit www.apolloconstructionsolutions.co.uk for product specific information.

Please contact Apollo Construction Solutions for further information: **01827 54281**
enquiries@apolloconstructionsolutions.co.uk

Alternatively, further information and product data can be found on our website:
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CASE STUDY

SIP Manufacturing

Proven experience in solving customer problems

Problem:

- Our customer needed to develop a flexible SIPs manufacturing operation.
- Each SIP needed to be designed and manufactured as a bespoke product for each customer.
- Minimal lead times were required.
- The adhesive technology to enable this flexibility was critical to the production process.

Solution:

- Apollo identified that the adhesive system would need to deliver an immediate high level of grab, while ensuring sufficient open time to allow the panels to be practically assembled on the shop floor.

- A new adhesive technology was created; a two-component high strength, structural polyurethane that combines fast cure rates with a high degree of initial green strength and tack.
- The high level of tack enables the panels to be consolidated by means of platen press at the end of the production line thus eliminating the need for batch curing in presses and dramatically speeding up production.
- Apollo designed the complete adhesive application system for the production lines, working with our customer and the production equipment manufacturer to ensure a trouble free installation.
- The new SIP product has now been tested by the BBA and awarded an Agrément Certificate verifying the long-term structural performance of the system.



VOLUMETRIC MODULAR AND PODS

Traditionally used only for commercial buildings, more than two-thirds of residential housing companies are now also investing in some kind of modular housing – doing as much of the work as possible in factories, instead of on building sites.

Apollo's adhesives have helped to transform the assembly processes of many of the leading manufacturers of volumetric modular buildings and pods, providing more efficient application systems and better designed products. Our technology has also helped to **reduce production cycles and increase production volumes.**



Apollo's chemists have developed specific volumetric modular and pod manufacturing adhesives, based on our extensive industry knowledge and experience. Our adhesives are proven to bond a wide range of materials, including steel, plastic, wood, gypsum board, OSB, GRC and concrete. Each adhesive has excellent water, heat and solvent resistance, as well as gap-filling properties.

Our volumetric modular and pod manufacturing adhesive range includes: (A5196 A/B) and (A5262). Visit www.apolloconstructionsolutions.co.uk for product specific information.



CASE STUDY

Factory Manufactured Prison Cells

Proven experience in solving customer problems

Problem:

- Our customer was developing a factory built solution for custodial residences for the Ministry of Justice (MoJ).
- The new modules incorporate a number of cells within each module, where each cell is constructed from light galvanised steel framed with 3mm galvanised steel sheet fixed to the interior floor, walls and ceilings. Additional internal linings including plywood and gypsum board are used to create a rigid and highly resilient cell construction.
- The module design is rigorously tested to ensure it meets the exacting security requirements set by the MoJ, including a test involving two specialist ex-armed services personnel using a range of breakout tools with the aim of escaping from the cell in a set time period.
- The initial design of the prison cell involved a mechanically fixed internal lining system, which failed the MoJ test. Apollo were called in to find a solution that would ensure it would meet the MoJ test.

Solution:

- Apollo created a two component structural polyurethane adhesive system that could laminate the plywood to the steel sheet and thus protect the steel from local distortion and bulking.
- The new fully bonded cell lining was tested, and while the 'escapees' could still remove the mechanically fixed layers, they were completely unable to penetrate the structurally bonded steel and plywood composite.
- The MoJ were so impressed with the performance of the bonded composite construction, they are now considering specifying this as standard for all factory produced prison cells.

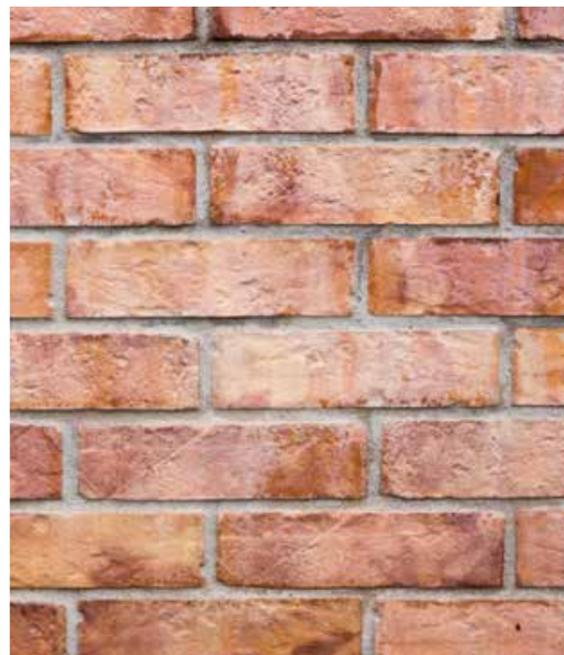
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SPECIALIST OFFSITE APPLICATION ADHESIVES:

Ancillary – brick slips, flooring, joinery etc.

Apollo has something for most specialist offsite applications, including brick-slips, flooring and joinery. Our specialist application adhesives are proven to bond a wide range of materials, including vinyl, plywood, chipboard, fibreboard, concrete and brick-slips. Each adhesive has excellent water, heat and solvent resistance to suit specific applications.



Our specialist offsite adhesive range include: (A5262) for brick-slips, (A6805) for flooring, (A1014) for joinery. Visit www.apolloconstructionsolutions.co.uk for product specific information.

We have adhesives to suit all applications, production methods and substrates, as well as solvent-free options. If these products don't meet your needs, we have many others that might and can even work with you to develop a bespoke solution, please contact us for more information.



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CASE STUDY

Exterior Brick Cladding

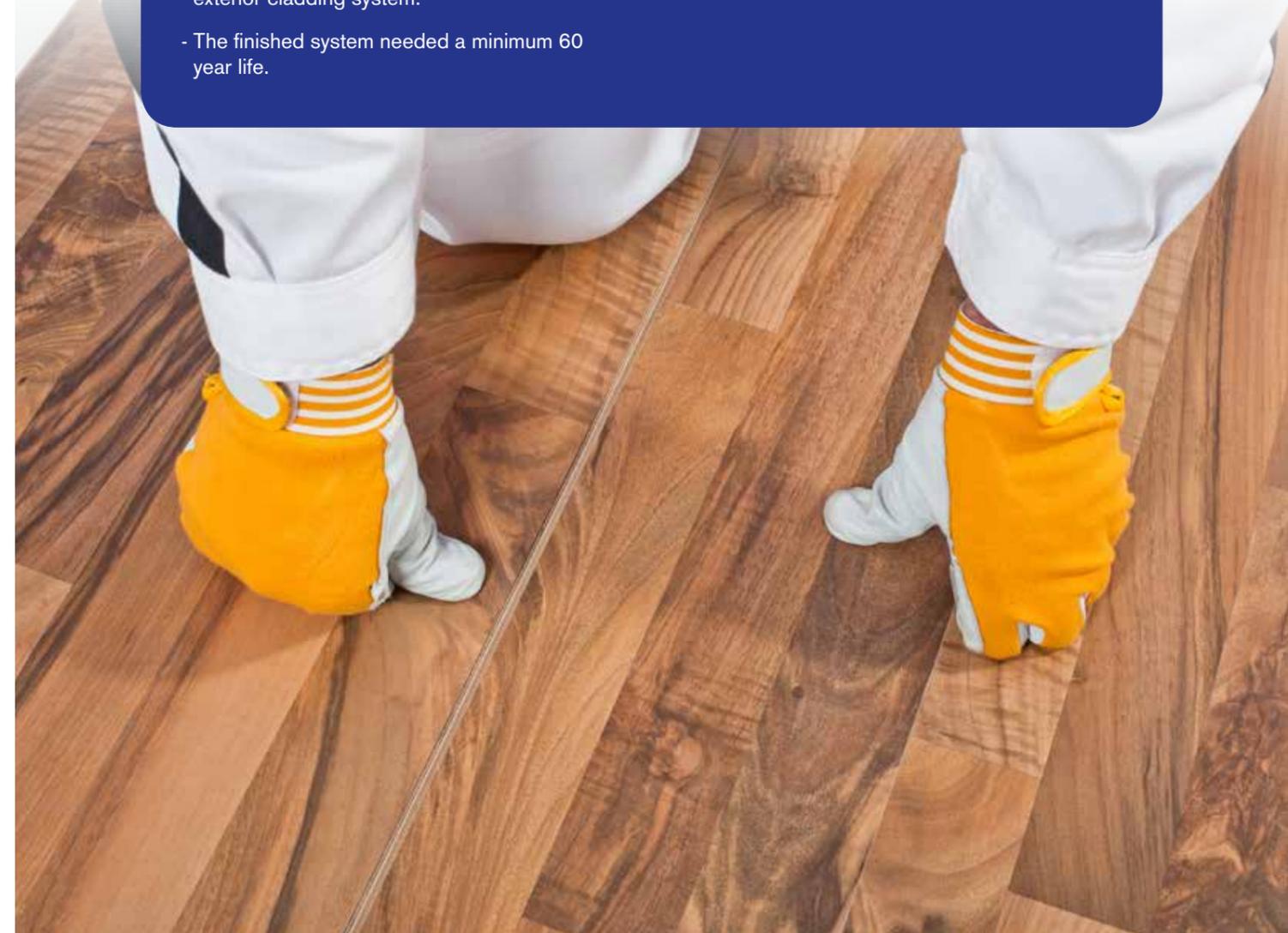
Proven experience in solving customer problems

Problem:

- Our customer's brief dictated that over 90% of their housing construction process needed to be brought into a manufacturing environment.
- Their houses needed to be delivered complete with an external brick cladding system that simulated a traditional finish.
- Apollo was engaged in the product development process to look at ways of developing the exterior cladding system.
- The finished system needed a minimum 60 year life.

Solution:

- Apollo developed a new adhesive solution for the bonding of a wide range of clay bricks on to a novel cementitious backing board for application within the controlled manufacturing environment and in exposed conditions on site.
- The finished system achieved full BBA accreditation, and our customer implemented a dedicated manufacturing line for the production of this innovative solution.





Apollo is the UK's largest privately-owned liquid adhesive, sealant, coating and primer manufacturer. We supply high-performance products worldwide across a range of industrial, construction, roofing and end-user markets. Supply is direct and via distributors, under Apollo and private-label brands. Customers recognise Apollo for our technical expertise, service and eagerness to build mutually beneficial long-term partnerships.

Our vision of becoming our customers' unseen coating, adhesive and primer department is in sync with building long-term partnerships by adding value and building trust – the ethos inspired by Apollo's founder (Robert Saunders) when he established the company.

For more information on the Apollo group see www.apollo.co.uk

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