RESISTANT
BUILDING PRODUCTS LTD

# Composite Panel Information Sheet

Resistant range of building boards have long been extensively selected as a core component of manufactured composite cladding panels. More specifically, our excellent Multi-pro XS board, available in 2440 / 2700 / 3050 x 1200mm size are selected for their high strength, dimensional stability, tight manufacturing tolerance and consistently smooth surface finish. XS stands for extra strength. Bending strength, a key performance characteristic of flat sheet building boards which underpins BS EN 12467 is commonly >100% stronger in Multi-pro XS than some other MgO boards available in the UK & Ireland. Additional comfort of consistent material characteristics and high quality is provided by 3rd Party BBA Certification held continuously since 2015. The standards targeted by our manufacturing & QA teams are regularly audited by BBA Inspectors to ensure full compliance with the documented production process.

***Composite cladding panels with Multi-pro XS core will meet their expected service life providing simple steps are followed at all stages of Panel Manufacture, Project Design, Installation & Maintenance.***

Composite cladding panels (sometimes referred to as sandwich panels) consist of 3 layers: Core material with a thin skin layer bonded to each face with a suitably proven adhesive. Manufacturered panels of this type can be used in numerous applications from external weather resistant cladding to lining the inside of a refrigerator panel van. Whenever composite panels are considered for a project careful consideration must be paid to detailing during design, storage onsite and fitting phases to prevent any moisture ingress at the edges of the panel. Typically, skin layers of plastic & / or steel type are 100% waterproof. Resistant Multi-pro XS core boards as per other similar types of building boards such as fibre cement or calcium silicate are water resistant rather than waterproof. These similar descriptions are sometimes confused. Water resistance is an ability of material to withstand and resist structural degrade via exposure to water over long durations. These building board cores don't prevent the passage of moisture into (or out of when ambient conditions allow) the panel in the same way the skin materials are expected to perform. The ability for water to penetrate through the exposed edges of the composite panel, any broken glue lines or via location of the mechanical fixings needs to be eliminated. Excessive moisture ingress into the panel over an extended period can lead to a reduction in fixing strength, part delamination / bubbling of skin and generally a degraded appearance. So, what can be done to avoid this? Here Resistant provide their top tips for manufacturers, building designers, contractor / fitters and building maintenance inspectors.

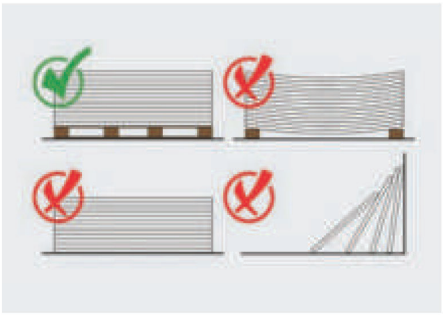
## TOP TIPS THROUGHTOUT THE PROCESS

**Panel Manufacturers:** Select adhesive suitable for an exterior application. Clearly advise your client on the performance of the panel that you are supplying and provide clear fitting guidance with your product. QA check all panels to ensure glue line bond is continuous over entire surface and reject any which don't meet required standard. Recommend and offer an additional factory process to apply a waterproof liquid sealant to all core board edges prior to bonding of the face layers (particularly important to consider on panels with decorative steel face layer returned over edges which makes later sealant application impossible) and further offer to supply extra sealant liquid with the panel delivery for application onsite during the fitting phase.

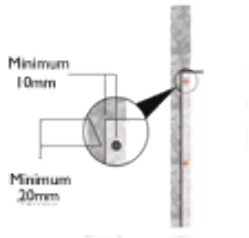
**Building Designers:** Focus on keeping the UK & Irish weather out of the building structure and just as importantly out of the core of the cladding panel. This can be easily achieved through careful selection from an innumerable combination of eaves overhangs, protective flashings, edge / joint profiles, flexible adhesive sealant, water repellnt liquids and mechanical fixing types. Select a stainless-steel grade of fixing which incorporates a washer or "o" ring to prevent water entering the panel core through gaps between the fixing and the surface of the panel.

**Project Management:** Composite panels have been manufactured in closely controlled factory conditions which often bear little relation to expected conditions on a typical building site. Upon receipt ensure panels are stored flat, under cover and up off the ground until they are ready for fitting. During internal first fix, check to ensure fitting of dwangs / noggins (for subsequent location of any wall mounted heavy equipment), don't push onto reverse of composite cladding panel on the exterior face of the wall and compromise panel fixing.

***Check List: Inspect condition of received goods. Store correctly prior to fitting. Ensure all ancillaries such as fixings and sealants comply with specification and are suitable for full exterior application. Regularly inspect workmanship during fitting of panels and continue checks during internal first fix.***



**Site Fitting:** As an absolute minimum, recommended guidance is that composite panels should always be mechanically fixed around the whole perimeter. Fixing centres should be determined by the project engineer. Never fix closer than 10mm from the edge and minimum 20mm down from the corner of the panel. Ensure boards are accurately located over frame or studwork they are to be fixed back to and that fixings correctly penetrate the structure or fixing battens as intended. Don't overtighten the fixings. Grip and grab type adhesives may be used in tandem with but not as an alternative to mechanical fixings. If fitting guidance stipulates use of a gap filling flexible sealant, ensure bead is continuous. Whenever a composite panel requires cutting to size all freshly exposed edges of the panel core should receive a coat of a suitable waterproof sealant. This can be quickly applied by brush or sponge pad. Take care to avoid applying any sealant liquid to the finished face of the panel and remove any spillage immediately to prevent risk of permanent staining. Ensure compliance with manufacturer's recommended drying time before fitting in place.




**Maintenance:** The purpose of regular inspection is to identify an opportunity for early intervention. Simple remedial work in the form of prompt repair to an area of missing / damaged flexible sealant or loose protective profile is a low cost but necessary intervention to assist the cladding panels and the building structure to which they are attached perform as expected for the duration of their intended service life.