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Euroclad continues to lead the metal roofing and cladding industry with further product innovation in its spacer bar systems. The revolutionary new Quattro bar and bracket system supersedes the existing Eurobar and Eurobar Extra systems, using intelligent product design to provide a stronger, more cost effective replacement. Put simply Quattro is a better product at a lower price.

Quattro has been developed to meet the challenge created by the revisions to Part L of the Building Regulations and is available in depths of 80mm right up to 400mm. With insulation depth continuing to increase this really is a future-proof system.

Combined with existing Euroclad products, Quattro can accommodate the potential for increased construction depths and offer the stable performance needed for modern metal construction, while being compatible across the majority of metal building applications.

EUROCLAD

Euroclad is the UK’s home-grown, independent supplier of metal roof and wall products which provide exceptional acoustic and thermal performance for the life of a building. Products are sustainably credible with proven routes for recycling and disposal. Euroclad listens to the needs of its customers and offers high performance, cost effective solutions.

Founded in 1981 Euroclad has taken huge strides over three decades, consistently investing in people and technology to satisfy customer needs. Cutting edge UK manufacturing maintains Euroclad’s position at the forefront of the metal roofing and cladding industry.

As part of its commitment to quality, service and the environment, Euroclad operates a Quality Management System approved to BS EN ISO 9001:2008 and an Environmental Management System approved to BS EN ISO 14001:2004.
WHAT IS A SPACER SYSTEM

Fundamental to any built-up metal roofing or cladding system is the spacer used to separate the outer weathering skin from the internal liner sheet. This stops the low-density insulation from being over compressed and allows flexible constructions accommodating almost any insulation depth.

The spacer system is crucial to the thermal efficiency and stability of the roof or wall system, supporting the outer sheet and transferring external loads to the structural elements. A simple example of how the Quattro bar and bracket system forms part of a built-up assembly is shown above.

STABILITY OF SPACER SYSTEMS

The MCRMA commissioned CERAM Laboratories to test the effect of downslope loading on a typical built up roof system at various pitches, the results of which were published in 2006. Subsequent testing undertaken by Euroclad and others at Corus laboratories in 2007 went further again and tested a range of available spacer systems under a number of loading conditions.

The results, analysed by the Steel Construction Institute showed that all systems were fully stable, up to 220mm height, at which point deflection and vulnerability to sway became significant factors for traditional spacers. Euroclad had at this stage already developed Eurobar Extra and Mast brackets which showed significant strength benefits over traditional existant spacers.

Quattro shows remarkable strength and stability in axial and lateral loading capability, drawing on our experiences gained and does not require reinforcement at any height. It has been extensively tested at CERAM during 2012, including the 400mm maximum bracket depth. The tests established the systems load capacities to comply with the requirements of CE marking, prior to the 2013 mandatory implementation date in the UK. For Euroclad this will ensure that all parts of Elite Systems carry appropriate CE marking.
QUATTRO

The implementation of Building Regulations Part L2: 2010 ‘Conservation of Fuel and Power’ has positioned the spacer as an even more critical factor to the thermal efficiency and stability of a metal roofing or cladding system. With the requirements to make buildings more thermally efficient, so the insulation depths increase to meet the desired U-values.

As a result the ‘traditional’ spacer may struggle to accommodate increased depths of insulation and could become unstable when dynamic loads are applied to the roof, such as loading sheets out during installation.

Euroclad has developed Quattro to work with any metal envelope construction that requires a spacer system, such as vertical and horizontal wall cladding and built-up metal roofing systems. Quattro forms an integral part of Euroclad’s Elite Systems and with this new product at the heart of any metal roofing or cladding system the construction can be confidently described as Quattro Secure.
BENEFITS

Quattro has been developed as an engineered solution to the ever more demanding Part L building regulations. As people realise the significance of thermal performance to the ongoing efficiency of metal buildings, so insulation depth is likely to increase. There does come a point of diminishing return where adding more insulation becomes proportionately less effective as an element in overall building CO2 reduction and energy efficiency, but the general trend for deeper constructions is undeniable.

Quattro brackets can accommodate insulation as deep as 400mm and are inherently strong and stable; stronger even than the Eurobar Extra Mast and Bracket. Just as important is that it offers considerable cost savings whilst delivering greater strength.

ENGINEERED SOLUTION

Due to its unique design Quattro is more efficient, with fewer brackets needed, fewer thermal bridges, and subsequently less material. Thermal performance and air tightness are outstanding and the system offers long term structural stability.

Ease of use

Quattro can be used in roof and wall constructions and can be quickly assembled on-site. Only two fixings are required for brackets up to 260mm (for brackets above 260mm four fixings are recommended) and the bracket easily slides into place.

High quality material and engineering

The system is manufactured from galvanised steel to a BS EN ISO 9001:2008 quality management system and BS EN ISO 14001:2004 environmental management system.

Technical support

Euroclad are a leading supplier of metal building envelopes in the UK and as such can offer expert technical support for its range of spacer systems, as well as advice and know-how relating to the holistic design and installation of metal buildings.
PRODUCT PARAMETERS

**QUATTRO BRACKET SIZES**

<table>
<thead>
<tr>
<th>Depth (mm)</th>
<th>80mm</th>
<th>100mm</th>
<th>120mm</th>
<th>140mm</th>
<th>150mm</th>
<th>160mm</th>
<th>170mm</th>
<th>180mm</th>
<th>185mm</th>
<th>200mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>U-value</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roof</td>
<td>0.45</td>
<td>0.42</td>
<td>0.38</td>
<td>0.33</td>
<td>0.30</td>
<td>0.28</td>
<td>0.26</td>
<td>0.25</td>
<td>0.24</td>
<td>0.21</td>
</tr>
<tr>
<td>Wall</td>
<td>0.45</td>
<td>0.42</td>
<td>0.38</td>
<td>0.33</td>
<td>0.30</td>
<td>0.28</td>
<td>0.26</td>
<td>0.25</td>
<td>0.24</td>
<td>0.21</td>
</tr>
</tbody>
</table>

Potential U-values for a built-up system using trapezoidal outer and liner sheets and 0.040W/mK mineral wool quilt insulation. U-values are likely to differ depending on the system used. Based on typical Euroclad Elite Systems. Actual values for Elite Systems shown on pages 10 – 13. 1.5m average purlin centres. For exceptional constructions bracket heights from 340mm to 400mm are available in 20mm increments.
SOLAR SIZES FOR ROOFS

220mm  240mm  260mm  280mm  300mm  320mm  340mm  360mm  380mm  400mm
INSTALLATION INSTRUCTIONS

ROOF APPLICATIONS

1. Brackets slide into and along the bars and are typically spaced at 1.2m centres. Standard bars are 3.6m long and are fitted with the deeper side up-slope.

For heights up to 260mm two standard 5.5mm x 25mm G16 fixings are fitted through diagonally opposite holes. From 260mm and up the same fixing is recommended through all four holes.

CLADDING APPLICATIONS

1. For vertically orientated sheets the bar is fitted horizontally with the broad side up.

2. Brackets slide into and along the bars and are typically spaced at 1.2m centres. Standard bars are 3.6m long. For bracket heights up to 260mm two standard 5.5mm x 25mm G16 fixings are fitted through diagonally opposite holes. From 260mm and up the same fixing is recommended through all four holes.

3. For the majority of applications using horizontally orientated sheets vertical bars are typically placed at 1.167m centres along the wall with an additional intermediate bar adjacent to each corner of the building. For negative loadings over 2.3kN (nominal 600mm bar centres) and 1.2kN (nominal 1.2m bar spacings) the bar centres should be calculated in conjunction with technical support.
2. No special measures are required for loading out where packs are located centrally over brackets. Where packs heavier than 1 tonne are anticipated these should span across a minimum of three bars.

3. At the beginning of each run of bar for roof applications a fixing is inserted at the side of the first bracket to prevent the bar sliding.

4. The bars have a spigot leading end which locks into the nest length and by maintaining a constant direction of lay any cut length can be utilised to start the next run.

5. The maximum cantilever at free ends is 300mm.

6. Joints in bars between brackets do not need to be fixed provided that loading out is over brackets and no point loading on the joint is anticipated.

4. The bottom bracket is fixed and the bar prevented from sliding by inserting a standard fixing through the deeper side into the side of the bracket.

5. Each subsequent bar length is anchored to the lowest bracket in its length by inserting a standard fixing through bar into the side of the bracket.

6. The span between brackets (sheeting rail centres) can be up to and including 2.1m.
BRACKET AND INSULATION U-VALUE PERFORMANCE BY ELITE SYSTEM

ELITE 1 · 1.167m bracket centres x 1.5m purlin centres

- 100mm: 0.45
- 180mm: 0.25
- 220mm: 0.20
- 240mm: 0.19
- 260mm: 0.17

ELITE 2 · 1.2m bracket centres x 1.5m purlin centres

- 185mm: 0.25
- 200mm: 0.23
- 220mm: 0.21
- 240mm: 0.19
- 260mm: 0.18
- 280mm: 0.16
- 300mm: 0.15
- 320mm: 0.14

ELITE 3 · 1.2m bracket centres x 1.5m purlin centres

- 150mm: 0.24
- 160mm: 0.23
- 180mm: 0.21
- 185mm: 0.20
- 200mm: 0.19
- 220mm: 0.18
- 240mm: 0.16
- 260mm: 0.15
- 280mm: 0.14
- 300mm: 0.13
- 320mm: 0.13

ELITE 4 · 1.2m bracket centres x 1.5m purlin centres