**TECHNICAL ROOFING FOCUS: HOT MELT SYSTEMS**

***Hot melt systems are a niche but rapidly growing sector of the liquid roofing market. Paul Franklin, Technical Secretary at the Liquid Roofing and Waterproofing Association (LRWA) offers best practice advice for specification and application.***

The demand for hot melt monolithic systems is growing. An ideal waterproofing solution for both new-build and refurbishment projects, the technology is frequently seen on flat, trafficked and inverted roofs, but is always buried.

Hot melts are proving popular as they are quick to apply and offer a highly durable waterproofing solution, providing flexibility and adhesion over a wide range of temperatures. Some hot melt monolithic membranes have a BBA certified life expectancy of 'the life of the structure it is applied to', providing clients with reduced building maintenance, peace of mind and whole life cost benefits.

There are however, some challenges associated with using hot melt systems, so here we outline the key considerations when specifying and applying the membranes.

**One vs two layers**

Most hot melt systems comprise of two 3mm layers of product with the reinforcement sheet enclosed between these layers. However, in the past few years we have seen single-layer systems being introduced into the market. The specifier must consider the sustainability and reliability of this system, bearing in mind that in some cases, it will be buried under a substantial amount of surface finishing such as green roof materials, paving slabs or water if a water feature is included in the project.

**Product certifications**

In the last decade, the industry has seen an influx of new manufacturers emerging to meet demand. With many 'newcomers' to the market, if a hot melt system is specified it is important to seek advice from a trusted trade association such as the LRWA.

Specifiers and contractors should select manufacturers which have the ISO 9001 standard and products which have independent accreditations such as BBA and ETA certificates.

**Inspections**

A pre-inspection of the substrate should be undertaken prior to installation, to assess its readiness for application. The performance of a hot melt system is dependent upon the substrate construction and its condition. Documented bond and peel tests should be conducted to ensure correct bond strength to the substrate and suitable adhesion across the roof surface can be achieved.

All work also requires a post-inspection covering membrane thickness, reinforcement application, access sheet application, flashings and detailing, adherence to the design specification and electronic leak detection.

**Application Best Practice**

A key consideration for specifiers and roofing contractors is site access. An agitating melter will be required on the roof at all times. This commonly requires a crane or a substantial hoist to transfer the melter. Adequate roof access will therefore be required, as well as space for equipment to be stored before the project begins.

During installation, contractors should make sure they achieve the correct thickness or depth of the product, and always adhere to the manufacturer's guidance on the correct application temperature.

All materials must be stored carefully in accordance with the manufacturer's instructions to prevent product damage or a health and safety risk to operatives or the general public.

**Beware an Emerging Design Trend**

We have noted reports from industry regarding the waterproofing of the outer perimeters of balconies. The suggestion is to apply the hot melt system to the inner face of the outer concrete/ structural parapet leaf and then build a brick inner leaf resting on the waterproofing surface. There is also one proposal to build steps on the waterproofing!

This is causing concern, because the hot melt could extrude under such sustained loading and any failures would mean substantial (and costly) enabling works to inspect, assess and remedy. At least one manufacturer has noted their insurers would not cover this detail.

The LRWA is working on a guidance note to cover this area and to advise on best practice and suitable solutions, in line with the latest British Standard Code of Practice for Flat Roofing, BS 6229:2018, which is due to be published later this year.

**The Importance of Training**

Ideally, operatives should achieve a National Vocational Qualification (NVQ) for Hot Melt Monolithic Waterproofing Systems, and gain Construction Skills Certification Scheme (CSCS) cards - which many new build and local authority projects require contractors to hold before access to site. However, hot melt manufacturers should also provide their own approved contractor schemes, ensuring the operatives are fully trained to work with their products properly. All LRWA manufacturer members offer this as part of meeting membership criteria.

**Further Advice**

The use of hot melts is on the rise but it is important to follow best practice and make the right choices when both specifying and applying the technology. For further information and advice, please refer to the LRWA's 'Hot Melt Code of Practice'.

**The LRWA's Hot Melt Code of Practice can be downloaded at: www.lrwa.org.uk**

**For more information or advice, please contact us at technical@lrwa.org.uk**