

# The importance of flexibility

**Martin Noon, sales director at FLAG Paints Ltd, offers his opinion as to why not all roofing compounds are the same**

It's important to differentiate between roofing membranes and compounds. Roofing membranes are 'dry' sheet materials and the waterproofing properties depend upon the existence of a continuous film. Roofing compounds are paint products that are applied wet and then dry to form a continuous protective film. Compounds are normally only used on flat, or slightly sloped roofs, because they often have self levelling properties and would be prone to run down a severe pitch before drying.

There are three main types of roofing compounds: hot applied, cold applied tar/bitumen and cold applied thermoplastic-acrylic. The obvious drawback of using a hot applied compound is that it needs to be hot. The hot applied process involves getting equipment up to the point of application resulting in extra costs and obvious health and safety issues.

## Not meeting demands

Most traditional hot applied compounds are based on bitumen or tars. Some roofing professionals feel that traditional products that have to be melted cannot be as flexible as modern resin systems. Time has shown that many hot applied products were simply not up to the demanding job required of them.

Modern high quality cold applied roofing compounds now come complete with some very clever chemistry built in, however, these should not be confused with the older cold applied bitumen or tar based compounds.

Many value roofing compounds are based on bitumen and will harden and lose flexibility as the solvent disperses; the dispersion/evaporation of the solvent being the first part of the drying process. A curing process will then continue long after the product appears to have dried. Basic bitumen compounds are renowned for becoming brittle and cracking as they age as they have very poor UV resistance and little elasticity. Generally speaking these types of products just cannot cope with the extreme temperatures and substrate movement that roofs are subjected to.

High quality cold applied roofing compounds are manufactured using specialist thermoplastic-acrylic resins coupled with Draylon fibre reinforcement. It's critical that the fibres are the right length and thickness to ensure cross-linking but not too long or thick to 'ball-up' or stop the resin having full contact with the substrate. The resin and fibres cross-link to provide superior strength and flexibility. Thermoplastic-acrylic resins



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remain flexible for many years longer than simple bitumen resins.

The ability to remain supple and capacity to move with the substrate is an essential attribute for a good roof covering. Modern thermoplastic-acrylic resins also have improved UV resistance and they are much more reactive to temperature changes, for example; in hot conditions the resin expands and slightly softens, providing increased flexibility to avoid cracking whilst the substrate expands in size. Unlike bituminous compounds, modern thermoplastic-acrylic compounds

are available in different colours including heat reflecting white and aluminium.

But beware, cold applied compounds come in many guises. Some make no mention of how long they are designed to last whilst others are claimed to last over 10 years. Some have specialist resins that allow them to be applied in rain or damp conditions, being able to 'strike through' the damp to reach the substrate; others simply wash away if you are unlucky enough to be caught out by the weather! Some require a scrim reinforcement to be applied in-between two coats whilst others incorporate fibre reinforcement built in to a one coat product. It's very clear that the price per litre can be quite misleading.

All too often the price of material is calculated on a per litre or square metre basis,



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without considering key questions like 'how much will it cost to apply?' and 'how long will it last?'

Michael Monaghan of L Fahey Roofing said: "We use Roofix 20/10 on all our council contracts where repairs or maintenance is required and the budget doesn't stretch or warrant a complete new roof. With its superior life-span it offers a very cost effective solution."

Rod Divine of Divine Roofing and Building Ltd added: "When you take the whole job into consideration, modern fibre reinforced thermoplastic-acrylic systems, such as Roofix 20/10, offer better flexibility, longer life and because they save time and work better than conventional felted systems, offer better value too."