To find out what the current state of play in the South African waterproofing industry is, WALLS & ROOFS in Africa contacted Paul Koning, of KVB Associates, Professional Advisors in the Built Environment and also President of the Waterproofing Federation of South Africa (WFSA).

Please note the answers given by Paul Koning are in his professional capacity as an advisor to the built environment and not as President of WFSA, and two prominent members of the Damp-proofing and Waterproofing Association of South Africa (DWASA), Alexandra Lepley, sales and marketing manager at Bitumproof SA, and Phil Llewellyn, owner of Safeguard Chemicals, for their views.

Could you give a brief overview of the current state of the waterproofing industry?

Paul: The state of the industry is relevant to the general state of the building industry as far as new work is concerned. Re-waterproofing work is always there, especially in the winter rainfall...
areas. However, the economy plays a part in whether the jobs are done properly or just patched. Nobody wants to spend money these days!

Alex: Waterproofing and damp-proofing is an industry that is under-skilled and over-catered with fly-by-nights and “bakkie brigades”, although to put a positive light on the subject there are reputable companies with passionate artisans who provide guaranteed solutions.

Professionals are truly the ones who have been in the game for years – offering guaranteed proven solutions such as water-based spray-on solutions that provide innovative seamless applications. As a massive global industry, waterproofing and building restoration solutions are a “known must” in building today!

Phil: “I am far more competent to talk about the damp-proofing industry where we benefit from the poor building standards currently prevalent in our country – poor quality bricks, improper laying of DPC sheeting, “bridging” of DPC sheeting by the fitting of plaster over the DPC without a proper “V” joint cut into the plaster, and so forth.

As far as the waterproofing industry is concerned there has clearly been a slow-down in new construction but refurbishment of existing roofs is an on-going occurrence. The financial squeeze felt by both property managers as well as property owners has meant that maintenance of roofs is sometimes put on the back-burner, often to the long-term detriment of properties”.

What are the preferred waterproofing systems and method of application for flat roofs currently in use?

Paul: The preferred waterproofing system on flat roofs today is still the modified bitumen membranes, commonly known as “torch-ons”.

Alex: Bitumproof SA - Master roof & Inopaz H20 - Our most popular systems are Spray On – Water based, ponding water resistant, UV stable white hybrid polymeric waterproofing and coating material that is resistant to extreme temperatures and extreme environmental
conditions. It features excellent insulation and acoustic properties. The material is applied as a seamless, decorative finish and flexible membrane that prevents water penetration and extends the life of the roof with maintenance free guarantees.

Are flat roofs still popular for new buildings?

**Paul:** Flat roofs, parking decks, terraces and balconies are continually being designed for many buildings. Residential buildings will have balconies and terraces, and some of the modern designs will have flat roofs.

The problem with commercial and industrial buildings is that flat roofs are used as areas for plants and equipment, sometimes making it difficult to waterproof and thus compromising the integrity of the waterproofing system.

**Alex:** Bitumproof SA Seamless waterproofing creates many new opportunities with Flat roof designs. Flat roofs are popular for having the ability to utilise this dead space with rooftop gardens and green roofs. These days, with seamless spray-on applications and excellent filtration and drainage boards, we can be sure that a flat roof is a safe way to go in today’s designs with today’s technologies.

Does the industry suffer from a lack of skilled artisans? If so, what is being done to correct the problem?

**Paul:** Yes, there is a shortage of good quality waterproofers, but the biggest problem is that anyone can set up a waterproofing company without any qualifications (and even previous knowledge), which then picks up men off the side of the road and gets them to lay waterproofing systems.

At last there is a CETA-approved training course for waterproofers, although to date there is only one CETA-approved training academy in the Western Cape.
Alex: Atleast waterproofing and damp-proofing have an association in SA creating a standard within the industry. Plumbers are not water proofers – this might be “news” to lot of people. We have introduced eco-friendly innovative spray/roller and brush-on applications for foundation to rooftop waterproofing and damp-proofing solutions – and we have been offering complimentary training since June 2011 to contractors and, thus training the industry through promotions and invites every two weeks.

This is complimentary to anyone who is interested in the basics of waterproofing and damp-proofing and “how to solve” through Bitumproof SA guaranteed solutions, become an approved Bitumproof applicator. We love to offer the time and knowledge to the fellow local industry. Backed by Pazkar Ltd, who have been offering innovative solutions to the building and Waterproofing industry around the world. We at Bitumproof SA believe educating one another and learning together is the way we have approached this under-developed, unskilled profession in SA.

On new buildings, what is your biggest competitor in terms of materials/systems for flat roofs?

Alex: Due to the industry using the torch-on system with the silver aluminium acrylic seasonal top coat, the current conventional systems do not allow peace of mind for the client. With laps and joints that are all weak points for water penetration, this conventional system would need maintenance every two years at the client’s cost.

If the building owners could understand the benefits of possibly investing in an initial cash outlay that is more expensive than the conventional system – yet most certainly affordable for what you are getting – they would save money.

Are bituminous felt roofs a thing of the past now?

Paul: The old “rag”-based bitumen membranes were superseded with fibreglass and polyester reinforced membranes. These membranes were laid in either cold or hot bitumen adhesive. These types of membranes have now been superseded by thicker polyester reinforced polymer modified bitumen membranes which are heat-fused (torched) down. The “torch-ons” are currently the most widely used waterproofing systems in South Africa.
Alex: It is still used due to the application cost being affordable with a maintenance plan.

Are epoxy roof coatings in regular demand?

Alex: No- Epoxy is best for floor coatings

How is the Association responding to the current call for “green” buildings?

Paul: The one aspect of “green” buildings, as far as the waterproofing industry is concerned, means how “green” are the materials and how “green” is the application. The manufacturers of most quality waterproofing systems will easily be able to give the client all the relevant information.

The other aspect is the energy efficiency of buildings which could require the roof areas being designed as a roof garden. This requires correct detailing and making sure of correct waterproofing specifications with good drainage systems.

Alex: It is one thing to promote green, and another to practise green. I believe everyone, at all times, and should get more involved in keeping it tidy with a concern for the future. Bitumproof SA proudly offers eco-friendly water based Waterproofing solutions to the waterproofing and damp-prooﬁng industry promoting and educating the Industry with our innovative International Green star technology.

Phil: Many of us within the industry are aware of the damage caused in the manufacturing, laying and disposal of bitumen-based products, and we are constantly seeking replacement products or products that can be used with certainty to protect buildings against water ingress and ultraviolet (UV) attacks.
In addition, architects are being encouraged not only to build with “green” products, but also to consider the use of “green roofs” as a means of utilising space for recreation purposes as well as insulating the building, reducing power costs and also creating eco-friendly “islands” within our concrete jungles. Many examples of this new concept are springing up throughout South Africa, encouraged by both municipalities and large corporate organisations.

Can you indicate the preferred materials/systems to be used for basement tanking?

Paul: There are basically two principles for keeping water out of basements or below ground structures. The first is the wet wall system – a retaining wall, a cavity and then a dry skin/wall. It is designed that water can get into a cavity. Any water in the cavity will then be drained away to the storm-water system or into a sump and pumped out.

The other principle is to waterproof the outside of the retaining wall and stop the water there. The main systems used in proper tanking are the self-adhesive membranes or the “torch-on” membranes. Depending on the seriousness of the groundwater, it is good practice to incorporate a composite drainage membrane which not only acts as a drainage medium, but also as a protection layer when back-filling.

Alex: Basement Tanking is made simple with spray on applications. We recommend RAPIDFLEX - Eco Friendly. A two-component, water-based bituminous liquid membrane for heavy-duty applications. The material is based on a unique bituminous emulsion featuring outstanding flexibility properties and excellent adhesion to concrete and metal surfaces. You do not need special surface preparation and can spray to thickness. With a 2 man team you can now do up to 1000 m2 in a day- really promoting quick turnaround for large basement. Rapidflex has the capability to bridge cracks and elongation properties – Our two component spray on has been successfully been applied in SA over 1000’s of m2– recommended around the world.

Phil: The protection of basements and cellars against water ingress is always best tackled on the positive side of the walls wherever possible, usually during the building phase.

Traditionally this has been accomplished using a single layer of torch-on membrane, but recent experience with rising water tables suggests that a dual-layer system is preferable, or a seamless damp-proofing system using a liquid polymer or similar.
Often, however, damp permeates an existing structure and it is necessary to damp-proof the negative side of the walls. Where the walls are damp rather than wet, it is possible to use cementitious systems to “tank” the walls and floor and prevent water ingress.

But, where walls are wet, cement-based products will not cure and it is then necessary to use a dimpled membrane on the walls and floor to channel moisture to a sump cut into the floor and to then remove the water using a self-actuating pump. The membrane can be covered in screed and by false walls to hide the presence of the system.

Acknowledgement and thanks is given to the following for information provided to assist in the compilation of this article: Paul Koning, of KVB Associates and also President of the Waterproofing Federation of South Africa (WFSA); Alexandra Lepley, Sales & Marketing Manager, Bitumproof SA; and Phil Llewellyn, owner of Safeguard Chemicals.