

NOT ALL PRODUCTS ARE EQUAL

THE RISKS ASSOCIATED WITH ACCEPTING ALTERNATIVE PRODUCTS TO THOSE YOU HAVE SPECIFIED

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Following on our recent article titled *Are you getting what you specified* the question arises as to how one evaluates tendered alternatives. When it comes to cladding it is vitally important that the performance of entire cladding system (sheets, method of attachment and ancillary items) is evaluated. The foremost criteria that influence performance are:

- Structural properties
- Waterproofing capabilities
- Installation
- Durability
- Maintenance

Structural properties

By far the greatest component is the geometry of the profile ($\pm 80\%$) with the combination of size (particularly the depth) and spacing of the ribs having the most influence. Thickness and strength of the base material contribute the balance. Cladding has to resist both gravitational (downward) and wind (invariably upward) forces. Under upward loading a cladding system is only as good as the resistance provided by the anchors (fasteners, clips, cleats, etc.) that attach it to the supporting structure.

A little known fact is that most span tables are based on the gravitational loading requirements only. Resistance to uplift from wind action, if indicated at all, is generally quoted as a nominal uniformly distributed load independent of span. Some tables contain notes and reduction factors relating to location and size of a building, others do not differentiate. It must be remembered that when it comes to metal cladding one size does definitely not fit all with regard to wind loading. Even if the geometry, base metal and anchor mechanism appear to be the same it is necessary to check the wind load capabilities of a cladding system.

Another factor to consider are manufacturing tolerances for the base metal. Locally produced coil is manufactured within a tolerance of $\pm 0.02\text{mm}$ whereas imported coil, depending on country of origin, could have a tolerance of $\pm 0.05\text{mm}$. It is also important

to establish if the quoted thickness is TCT (total coated thickness) or BMT (base metal thickness i.e. thickness of steel core excluding coatings).

Waterproofing capabilities

Water carrying capacity and the method of sealing the junction between profiled sheets and ancillary items together with side and end laps determine the waterproofing capabilities. The type of fastener used to attach ancillary items to the profiled cladding has a major influence on both the waterproofing and structural performance of a system.

Installation

Is the cladding system going to be installed by an approved and competent installer whose workmen have been trained by the manufacturer. This is an important factor as many installers use transient and/or sub-contracted labour. Failure to comply with this requirement can have a negative impact on warranties.

Durability

Durability is dependent on thickness and type of coating. Not all coatings perform equally in a given environment. In our opinion it is best to insist on compliance, preferably with SANS standards, failing which other internationally recognized standards for both the manufacture and performance testing of the materials. It is of the utmost importance that the durability of the protective coatings on exposed fasteners is equal or better than that on the cladding. As almost all roofing fasteners are imported it is important to establish that the protective coatings comply with SANS 1273.

Maintenance

Maintenance requirements for a system can have a significant influence on the life cycle costs of a cladding system and also need to be considered.

In our opinion insisting on compliance with SANS standards, which are written for local conditions, will greatly reduce the risks when assessing alternatives.



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