The European coil coatings market

Europe’s coil coatings segment is the largest in the world, and its pre-coated steel and aluminium are used for many applications including buildings. One of the greatest challenges it now faces is to withstand the dynamics of the global market. In particular, European coil coatings will have to react to the recent unexpected imports of pre-coated coil from Asia and other countries offering lower prices.

Keeping ahead of the field: challenges range from quality to communication
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A market with many demands and solutions
After more than 40 years, the coil coating industry in Europe is a truly mature one. In recent years, partnerships with specialists from the largest chemical groups have led to new generations of paints adapted to modern coil coating lines, providing durability far beyond that of traditional coatings in terms of their resistance to corrosion and solar radiation.

Looked at from another viewpoint, the coil industry has always responded positively to all concepts of colour, decoration and images, offering rapid production of colour matching samples and industrial-scale batches with many options for the appearance of the topcoats (metallic, mica, grained, structured, textured, printed...). The many end uses of pre-coated products drive us towards choosing highly specific raw materials of high quality. As a fundamental element in the coil coating process, paints play a determining role in the performance of finished coil coated products. These paints must at the least satisfy four main requirements:
- Easy application qualities with roll coating machines to obtain smooth films without any defects, even on the highest speed production lines (running at up to 220 m/min).
- Very short curing time, obtaining all the necessary polymerisation and avoiding any changes to the colours of the pigments. Depending on the specific line and curing process selected (convection, induction, IR curing...), the time to pass through the oven can range from 5 to 60 seconds. Temperatures reached by the metallic substrate range from 200°C to 260°C depending on the type of paint.
- The dry paint film must be capable of being formed and processed without any cracking or loss of adhesion.
- Depending on their end-use, coil coating paints must separately or simultaneously have a high level of durability, ability to withstand bending, resistance to solvents and aggressive chemicals.

Paint selection must be matched to end-use
There are not enough multi-tasking paints to answer for all end-uses. That is why different chemistries have been used, based on the real performance specifications requested, and obviously also on costs. The choice is generally made taking in account the main qualities of each family of paints, the cost and warranty demanded. Some important European and international norms are shaping the market in the best interests of the final customers (for example EN 10169 for the steel industry, and EN 1396 for aluminium in Europe).

Commercial and environmental progress continues
The coil coating market has experienced a significant growth for years now, in particular in the construction area. All participants in a building project are very responsive to the speed of implementation of pre-coated claddings, and for architects the opportunity to play with the many shapes, colours and harmonies they can use. Paint formulators have made great efforts to investigate paints based on materials less and less dangerous for the environment and human health.

Downstream, pre-coated steel and aluminium can be recycled with few losses. All these points have contributed to the growth of the coil coating market in the 1990s and into the new century.

Today’s challenges: globalisation and regulation
Despite all these advances, it is now clear that the European coil coating industry is faced with a double challenge:
- To continue to be the cleanest one in the general industrial field. This means continuing to obtain the performance and cost levels needed by the market, and remaining the leading technology with modern products, following all that Europe is implementing in terms of aggressive environmental policies such as REACH.
- To withstand the dynamics of the global market and in particular the recent unforeseen imports into Europe of pre-coated steel and aluminium coil with low prices, in particular from Asia.

Even if the performance and quality levels of these products are lower than European standards, this fact is not so obvious to end users, as a white cladding is always considered as a white cladding, whatever is its real durability.

In itself, improving the communication processes of the coil coating industry will also be a high-level challenge.

Further advances are the best market response
The European coil coating segment is the largest worldwide, and certainly the one which has innovated strongly throughout the last ten years to create a technology based on high performance products. We strongly believe that the European coil coating industry must continue in this way. The attitude of all the stakeholders around our industry shows a clear drive towards maintaining the ‘green’ philosophy of coil coating technology.

R&D is the key sector where investment should be continually strengthened, together with strong partnerships all along the whole pre-coated metal production chain (surface treatment, paints, coaters, applications and curing processes). Some important breakthrough must be optimised, characterised and fully finalised (like radiation curing, powder, and complete waterborne systems) to be ready for the CO2 emissions regulations which will become more and more restrictive for production lines. We strongly believe that European
environmental regulations can create a real opportunity for the European market and a good way to differentiate itself from other world players. Communication will be a key issue for the European coil coating industry. Significant programmes of promotion to downstream users and lobbying will have to be organised to show that the way forward being followed by all European players will keep them ahead of the field for years to come.

These are the European challenges for the coil coating industry. Will this industry as a whole accept that it must take up all these challenges, or will it follow the 'devil's path', reducing quality, cost and promotional activities to respond in a more short-sighted way to the minor imports from the emerging countries?

The answer to this question is the key issue for the future of the European coil coating market and its organisation.

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Figure 1: World coil coatings consumption between 2005 and 2007
Figure 2: (above) European precoated steel shipments; (below) European precoated aluminium shipments
Figure 3: European paints supply 2006/2007
Figure 4: Main exporters to EU-27, example: galvanised and precoated steel