

Qualitydecoral® Gold the winning choice.

Using super durable powder coatings and hyper-durable films for an incredible step forward towards ecology.

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The general and increasing need for products' durability pushed Decoral®'s technology frontiers unimaginable until today. New resins, new additives and new chromophores allowed designing products showing an increased durability compared to standards reached up to now. The Qualitydecoral® Gold series is born. This endurance, besides allowing to apply this famous technology to fields unexplored up to now, considerably increases objects' life. Everything to Nature's advantage!

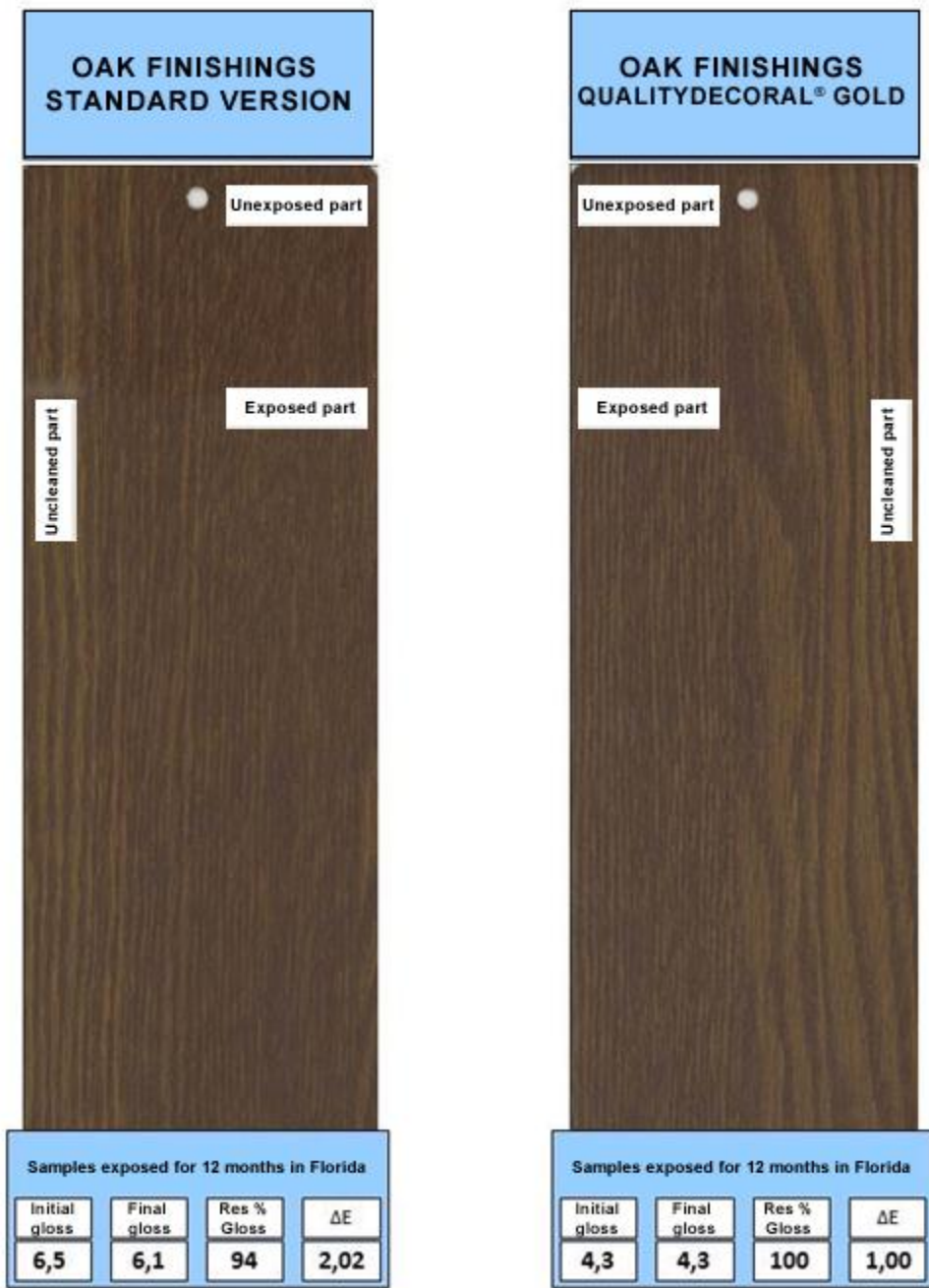
Market and technological developments

Decoral System®, since 90's leader in plants' production, raw materials manufacturing and in managing the know-how concerning sublimation technology, recently developed and launched onto the market a new series of powder coating and a new series of sublimation films expressly formulated for this process. Class 2 powder coatings (DS 04XX S and DS 07XX S series) involve using polyurethane resin highly resistant to degradation and an innovative combination of UV absorbers; all of this to increase light endurance (especially towards short wavelengths) and to elements resistance (heat and humidity), which are the main responsible for coating products' degradation. For hyper-durable sublimation films (8XXXX/YY L4 series), the innovation is connected to the use of high resistance chromophores.

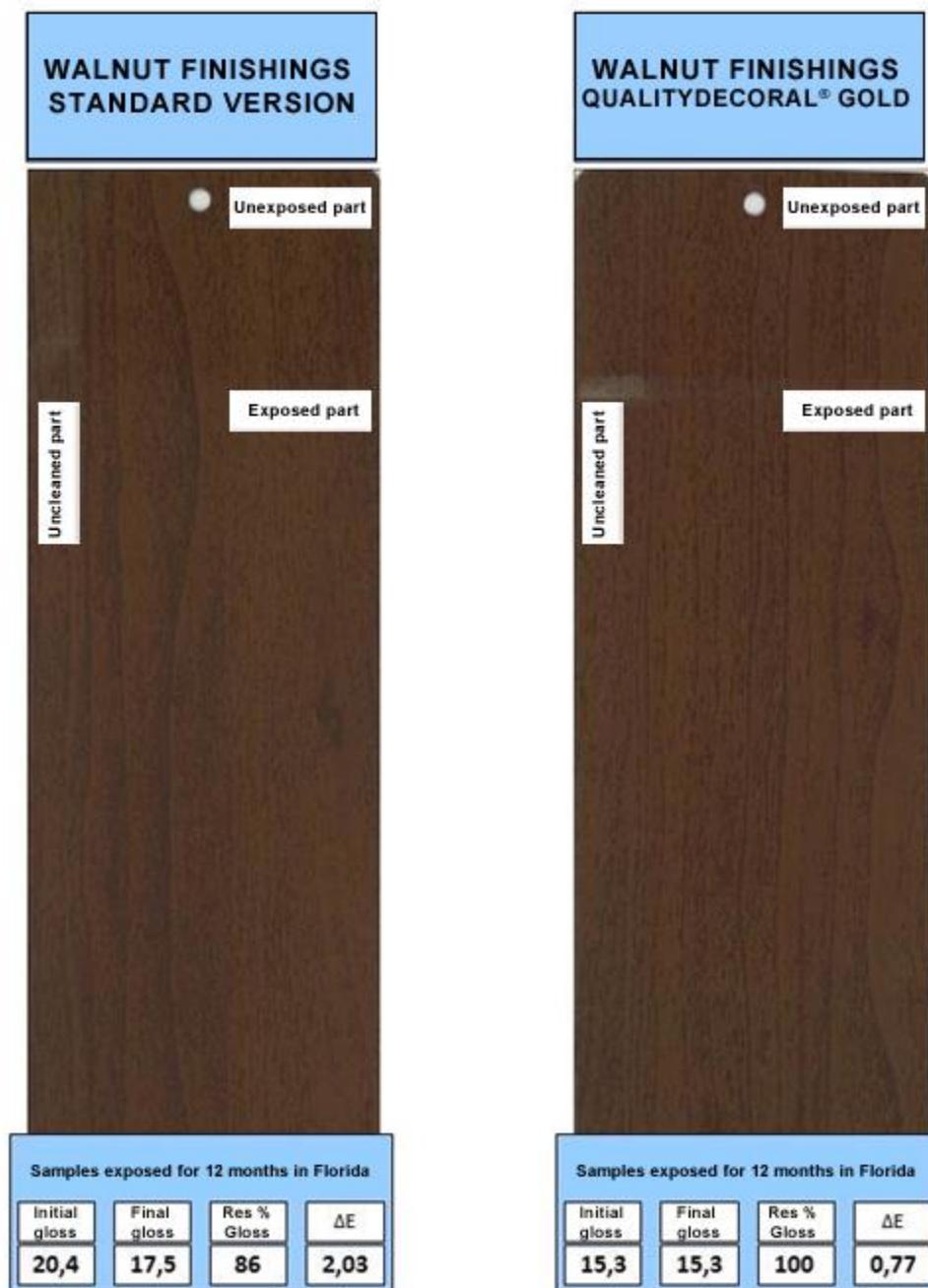
The combined use of these innovative raw materials allows reaching a higher durability against the elements, which would be unreachable with standard raw materials, normally used in the colour sublimation process.

Qualitydecoral® Gold vs Standard

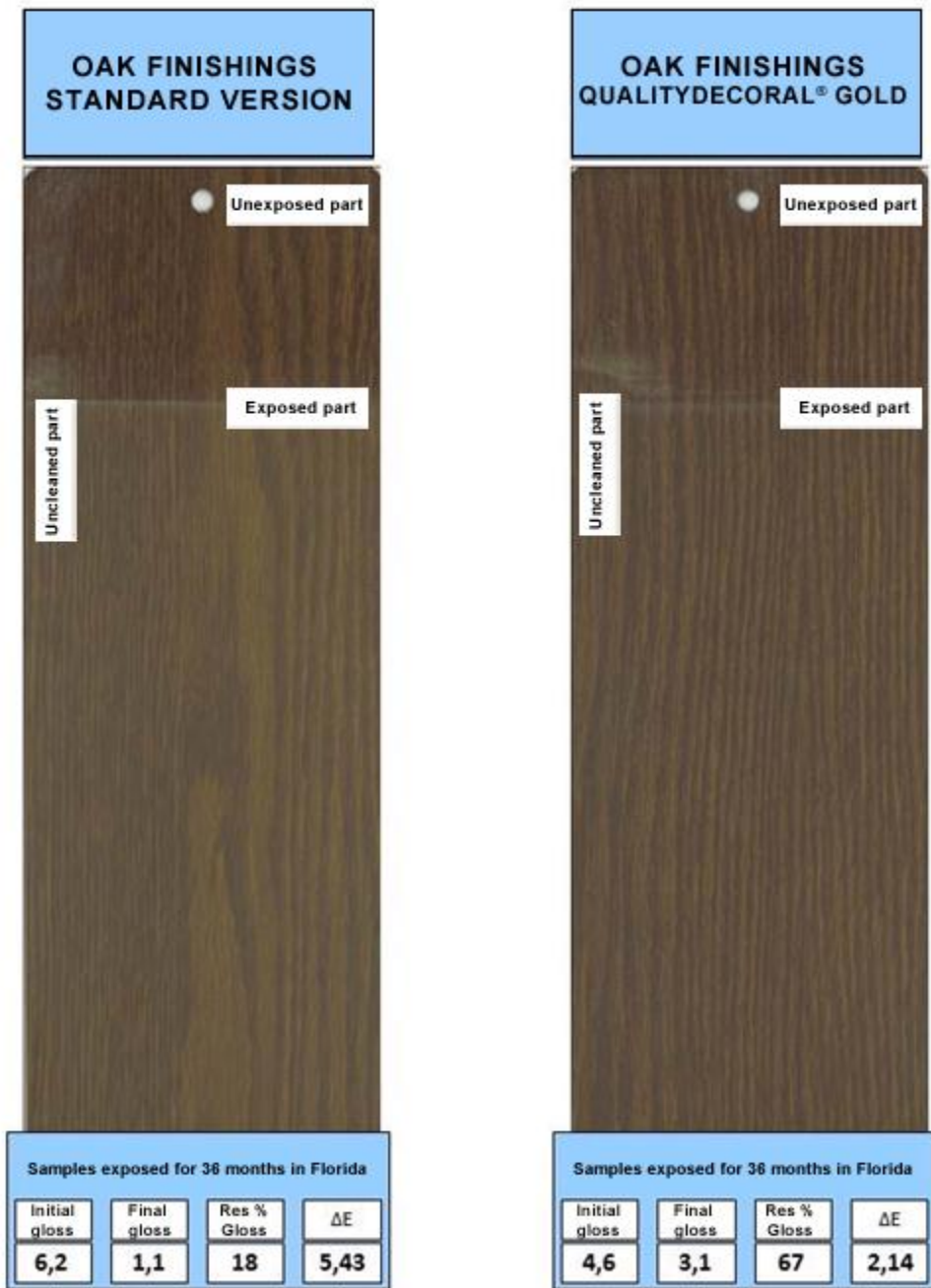
Natural exposure tests, putting samples through southern Florida's humid, hot climate and high UV radiation, allow R&D labs to reliably foresee manufactures' durability. In particular, the new series' products show incredibly higher resistances than standard products. The following pictures show the high durability of manufactures prepared with super-durable powder coatings and hyper-durable transfer films, especially after long exposure periods. Qualitydecoral® Gold samples, in line with standards samples after a year's exposure, explicit all their endurance to the passage of time. Indeed, comparing the images of samples exposed for three years, you can see the nearly nonexistent degradation of the high durability series (samples on the right), while normal finishings show a degradation that, though staying in the standards accepted by the market, bears the marks left by time.



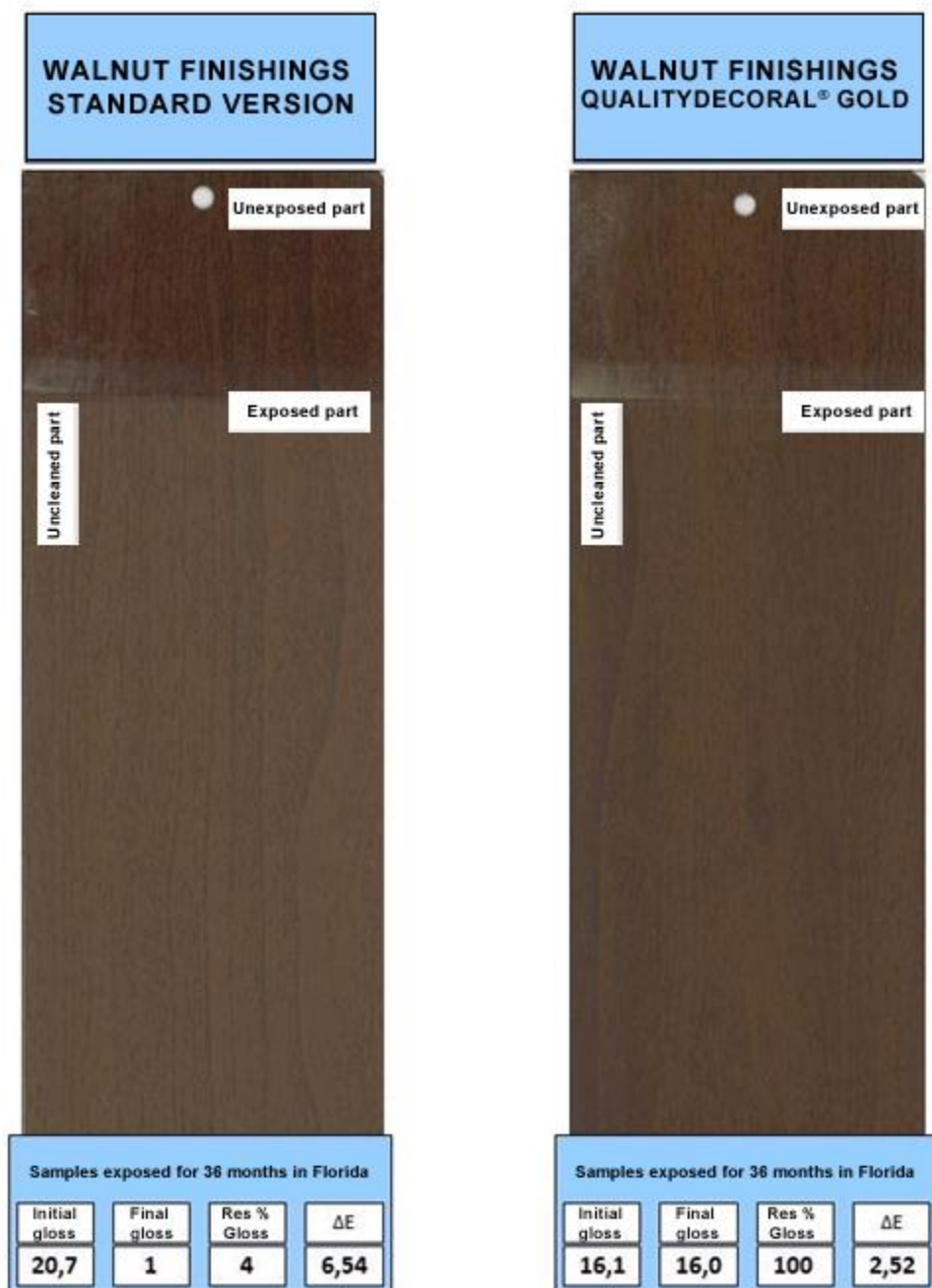
Picture 1: samples exposed for 12 months in Florida; comparison between standard and Qualitydecoral® Gold textured oak.



Picture 2: samples exposed for 12 months in Florida; comparison between standard and Qualitydecoral® Gold smooth walnut.



Picture 3: samples exposed for 36 months in Florida; comparison between standard and Qualitydecoral® Gold textured oak.



Picture 4: samples exposed for 36 months in Florida; comparison between standard and Qualitydecoral® Gold smooth walnut.

We can also have a numerical evidence of Qualitydecoral® Gold products high resistance. The main parameters, normally monitored to evaluate the degradation of decorated surfaces, are colour variation (ΔE) and residual gloss percentage (res%). After three years' exposure, the smooth walnut superdurable sample's ΔE is extremely low and the colour variation is 2,52, while the sheet prepared with standard products was subject to a 6,54 degradation. Qualitydecoral® Gold sample shows a great stability also in terms of residual gloss (res% 100); unaltered gloss. On the other hand, standard raw materials show an higher degradation, with a residual gloss percentage of 4%. It is important to consider that samples were run through a test of thrice the duration imposed by Qualideco specifications for standard products. Basing on this data, we can state that new series' products have a durability three times higher than decorations prepared with standard raw materials.

Wood effect long life and low environmental impact

The technological improvement concerning finishings' durability adds up to benefits to the efficiency of aluminium doors and windows, such as the high thermal efficiency, the resistance to wear and tear by the elements and the high noise absorption. Long lasting surfaces also considerably reduce the need for restoration of manufacts, limiting the environmental impact linked to the worn-out recycling process and to the production of new materials. Moreover, we should mention the low impact that the "wood effect" aluminium world has on deforestation and generally on nature. Decoral System®, market leader in the production of raw materials for decoration, produces every year powder coatings and transfer films to decorate doors and windows for about 200'000 flats, housing units which could lodge about 400'000 people. To produce as many doors and windows we would use about 60'000 m³ of wood, for which we should deforest many hectares of woods. Moreover, these doors and windows would have a lower durability and need a continuous maintenance, increasing the environmental impact.

Conclusions

The encouraging results we got up to now allow us to connect the new formulations to the higher performances of Qualitydecoral® Gold decorated finishings. Choosing DS 04XX S and DS 07XX S series powder coatings and hyper-durable sublimation films (8XXXX/YY L4 series) we can get decorated surfaces with a very high resistance to the elements. All of this leads to an incredible durability and consequently to a very low environmental impact.

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