



Industrial Process
Spectroscopy

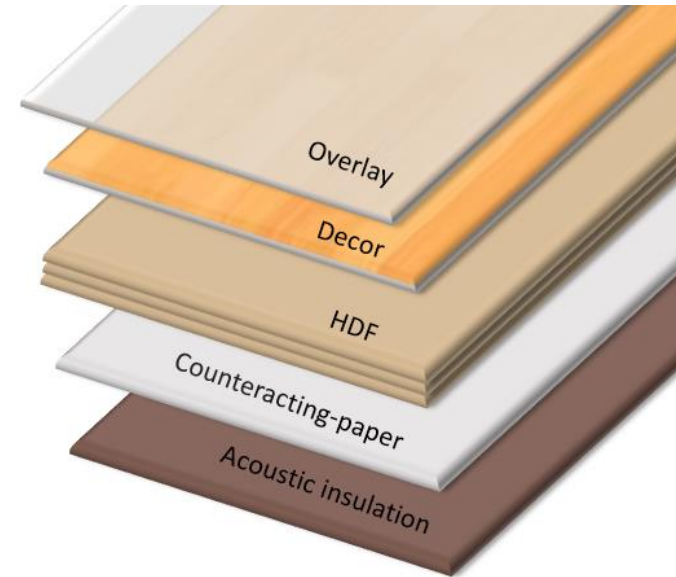
APOS TABERonline – NIR measurement of abrasion resistance as per EN 13329

Wedel 05.02.2021

PAST: the Taber test...sample based, off-line

Background:

- In production of floor panels, the pressing (short cycle press) of (several) resin-impregnated papers is carried out on (wood-based) panels
- A surface / overlayer protects the product from abrasion
- The abrasion resistance is routinely determined on a production line using a so-called Taber Abraser Test
- The Taber Abraser Test of the surface determines the product quality and the abrasion class
- The laboratory analysis is time and material consuming and does not allow process optimization
- APOS replaced the laboratory analysis by an online NIR measurement



NOW: APOS TABERonline: online measurement to save Corundum and to reduce costs

Online measurement has many advantages:

- **Reduce Corundum** amount: too much corundum is often used to achieve product quality ("worry margin")
- Time-consuming laboratory procedures are replaced by online measurements
 - **No consumables** / sandpaper/abrading wheels
 - **Continuous monitoring**
- **Production speed** can be increased
- Material waste can be reduced
- Product quality is improved
- Based on Taber Abraser (Abrader) - **Test Method EN 13329** Annex E (method for measuring abrasion resistance and consequently determining the abrasion class of laminate floor covering elements)



HUGE savings with APOS TABERonline

Sample calculation for savings potential:

- Corundum savings potential of > EUR 100,000 per year by reducing the amount of corundum
- No lab analysis, not test wheels for test device needed. This can save a further 48,000 euros
- This results can be up to total savings of 180,000 euros per year – or even more

Product	Floor panels, floor		
Applikation	Wear resistance		Input
Assumptions system specification	Production capacity per channel	60.000.000	m ² /yr
	Particle amount (5-100 g/m ²)	22	g/m ²
	Particle amount per channel	1.320	t/a
	Cost of particles, corundum	2.000	EUR/t
	Particle cost per channel	2.640.000	EUR/yr
	Saving particles	5,0	%
Result	Particle quantity new	20,9	g/m ²
	Particle amount per channel new	1.254	t/yr
	New costs of particles per channel	2.508.000	EUR/yr
Corundum savings		132.000	EUR/yr
Further savings potential			
Material	Sandpaper cost per sample	40	EUR
	Tests per channel	4	per day
Personal	Personnel costs in euros are not required for the examination	60	per day
Savings	per year (7000h)	48.467	EUR/yr
Total savings / yr		180.467	EUR/yr

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