SHERWIN-WILLIAMS®

Flooring

High-tech Industrial Parquet Coatings

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High-tech Industrial Parquet Coatings

Sherwin-Williams
We have the right stuff

Sherwin-Williams is a global industrial coatings leader, supporting customers with innovative liquid and powder technologies and extraordinary service. The floor coating solutions described in this brochure were developed by our flooring experts in Sweden and are today sold all over the world. They are the result of 30 years of researcha and real-world testing. Working closely with our customers, we can create the most cost-effective, highest quality and environmentally compliant flooring solutions.

Product range

Our flooring technology is based on three building blocks; solvents-free UV technology, lacquer build and quality, as well as the opportunity to combine flexible systems. Our UV curing products cure in a split second, produce exceptionally durable surfaces. For example, our sunflower-based UV oils in which we have chemically modified the binders to be 50% renewable and react to UV light, cure in a split second and offer excellent durability and scratch resistance. This process normally takes 24 hours, so the benefits are obvious. And when handled correctly they are also safer than conventional solutions. As well as environmental and workplace benefits our solvent free UV technology also speeds up several other areas of the production process that can save you time and money.

Three core concepts

When it comes to lacquer build our flooring solutions are based on three core concepts:

- Base layer – excellent adhesion properties
- Middle layer – strength and durability
- Top coat – resistance and long life

The middle coat of lacquer provides the substrate with strength and durability and these characteristics are given top priority in our flooring solutions. The top coat meanwhile gives the finished substrate the desired gloss and finish. All while providing the substrate with durability, as well as chemical and scratch resistance. We should mention that we produce a range of top coats based on three different technologies: nanoparticles, ceramic particles and hard coatings.

Maintenance products

Our flooring maintenance produced range is called Parquet Pro and incorporates one and two-component water-based finishes, oils and polishes for commercial and residential use. The entire range stands up to the toughest of demands of residential and commercial spaces, offering durability and high resistance to mechanical wear. The Parquet Pro range also improves and simplifies the cleaning of floors.

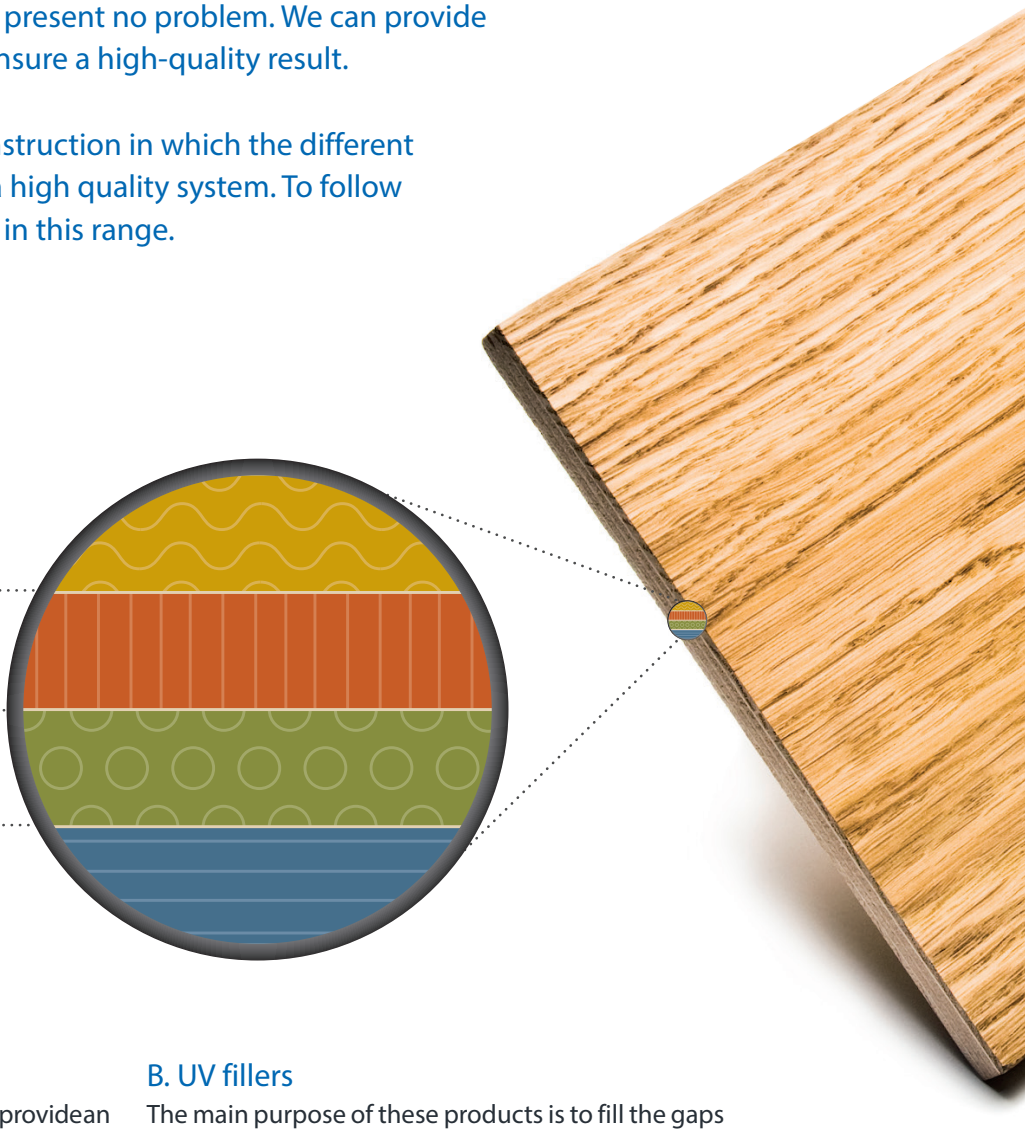
Specialty products – giving you the advantage

Where we really come into our own is our specialty products. For example, our antimicrobial coatings inhibit microbial growth, provide 24/7 protection and are wash resistant. We are currently not aware of any competitors that have an equally effective range of flame retardant UV coatings for parquet. These are just two of our many specialty products that you can read more about starting on page 6.

Structure of coating system

Sherwin-Williams parquet coating systems offer endless possibilities, comprising ready-to-use finishing concepts for a whole range of substrates, for immediate use or with minor modifications.
Special requirements or conditions present no problem. We can provide alternatives that are efficient and ensure a high-quality result.

The core concept is a sandwich construction in which the different coating products interact to build a high quality system. To follow is description of the main products in this range.



A. UV adhesion primers

The main purpose of the adhesion primer is to provide an excellent adhesion to the substrate. There are different types of primers:

WB UV primer

Best adhesion for standard substrates like oak, ash, beech etc. Some of our primers need a flash-off time, preferably in an oven with hot air or IR lamps, before the next coat is applied.

100% UV primer

Best adhesion for exotic substrates such as merbau, jatoba, teak etc. Effect can be enhanced by addition of a special hardener. Needs to be semicured before next layer.

UV stain or WB stains

Can usually replace above-mentioned primers with good results, while providing superior enhancement to the floor.

B. UV fillers

The main purpose of these products is to fill the gaps between joints and small defects in the parquet and provide a suitable layer for the sealers.

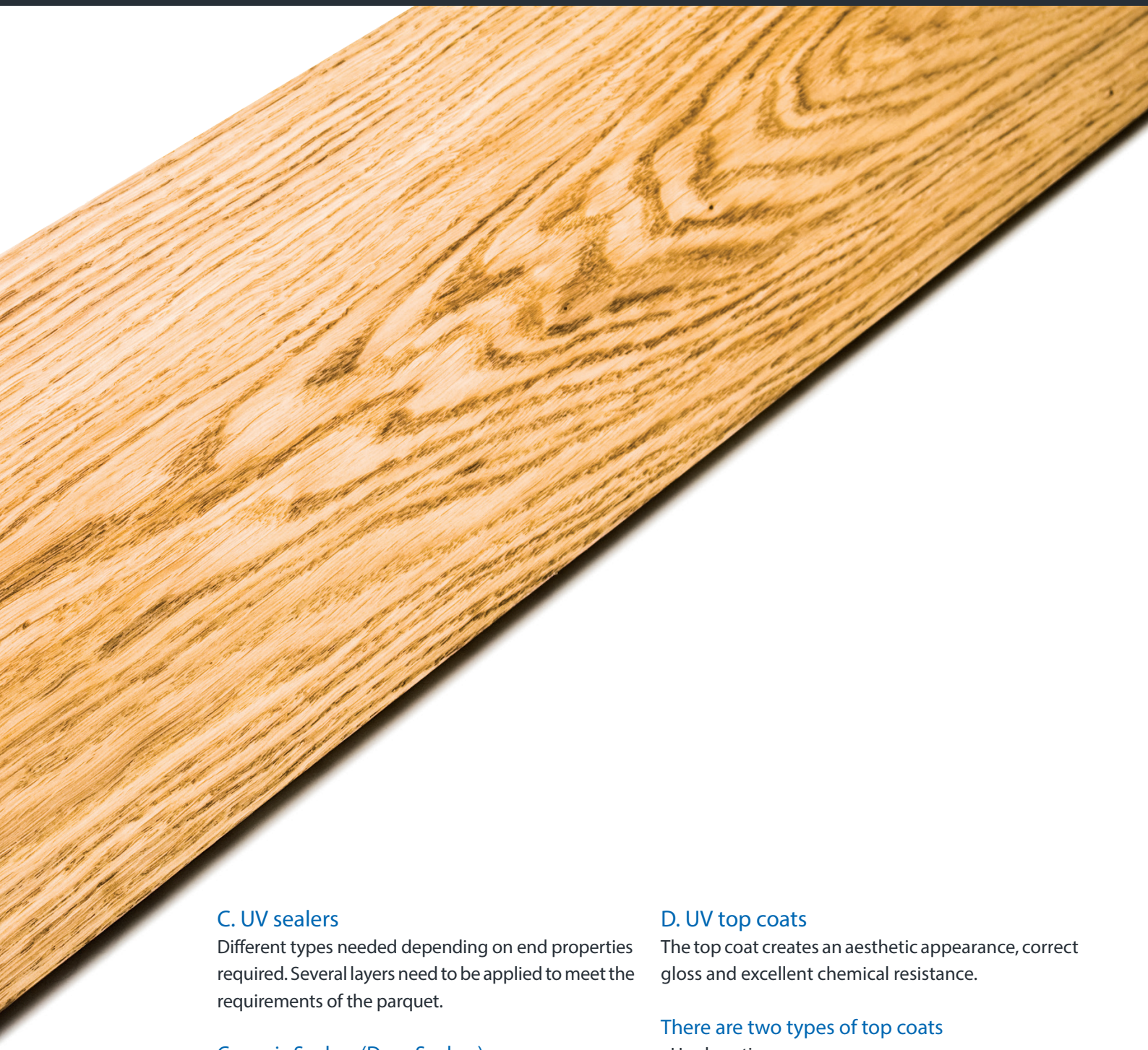
For filler machines

Available as both transparent and tinted low & high viscous fillers with good filling power and adhesion.

UV hand fillers

1-pack: Monomer-free, through cure 4-5 mm, suitable for holes < 6 mm in diameter.

2-pack hand fillers: Extremely good adhesion and no shrinkage up to a diameter of 50 mm



C. UV sealers

Different types needed depending on end properties required. Several layers need to be applied to meet the requirements of the parquet.

Ceramic Sealers (Duro Sealers)

15g/m2isenoughtoachieveexcellentresultaccordingto traditional S33 sand paper method.

Tough and hard sealers

Can attain 6H without brittleness.

Tough and flexible sealers

Importantforagood“fallingsand”abrasionresistance.

Low gloss sealers

Preferablewhenanopenporestructureisrequiredandin combinationwithalowglosstopcoattoavoidtoomuch gloss in the pores.

Sandable sealers

Very easy to sand and provide an excellent finish for top coats.

D. UV top coats

The top coat creates an aesthetic appearance, correct gloss and excellent chemical resistance.

There are two types of top coats

- Hard coatings
- Anti-scratch,whichcanbebasedfollowingtechnologies:
  - Nano particles
  - Ceramic particles

Top coats also come for example with anti-microbial properties.

A product range for all of your needs

Ourproductrangecoverstheentireflooringproductionprocess.Forproduct finish,coupledwithproductionlineefficiencyandenvironmental-compliance, our range of products is second to none.

Wide range

TheSherwin-Williamsstandardproductrange presentedinthisbrochurewasdeveloped in Sweden and is today used all around the world, It is the result of the expertise, commitmentanddedicationofourflooring experts.Workingcloselywithourcustomers, wecancreatethemostcost-effective,highest quality and environmentally compliant flooring solutions.

Flooring stains and effects

What attracts people choosing a floor is very often an unique design and colour. Wehavepreparedaspecialcompositionof waterbasedstainswhichnotonlyenhance thebeautyofwood,butthesametimehelp to keep high adhesion level of a following coatingsystem.Theycanbecombinedwith a wide range of special colour effects. For exampleunderlyingporesofoakorgivinga sparky shine of metallic particles.

Maximum Performance Coating System (MPC)

- Excellentadhesion,evenontropicalwoods
- Extremefillingpowerandtransparency
- Outstanding toughness
- Improved hardness even on soft woods, birch 2H -> 6H
- Superior abrasion resistance
- Minimised white marking
- Top coat is incredibly smooth and comparable to the effect of a liquid polyurethane lacquer

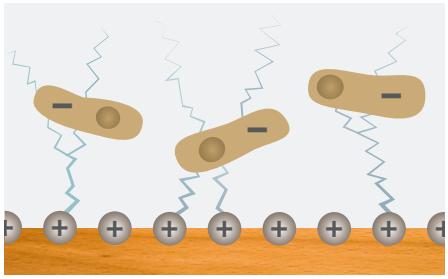
Super Matt system

A UV system that creates the same look as a bare wood surface or deep matt oils. Advantages:Sametechnicalparametersas a high class UV finish with extreme anti-scratch properties. Gives your customer a surfacewhichisservicefreeforalongtime. Incomparisonwithanoiledfloornore-oiling isneeded.Gloss2,5-3,0ispossible(Gardner 60 and Gardner 85).

Special products

Anti-microbial coatings

Inhibitsmicrobialgrowth.Protects24/7and iswashresistant.Doesnotcausebacterial resistanceasitisaphysicalmechanism.The anti-microbialingredientsaredistributedin the top coat to last a lifetime.
Tested acc. to: JIS Z 2801:2000
Staphylococcus aureus ATCC 6538.



Incontactwithmicrobes,ouranti-microbialsurfacetransmits positivenano-chargestothemicrobes.Thesenanodischarges are extremely weak and cannot be felt by humans. The nano dischargesinhibitthemetabolicprocessesofthemicrobe'scell rendering them inactive and unable to multiply.

On each of the three panels the left side has been exposed to 100 hours of UV light, while the right side has been protected with aluminium foil to illustrate the original colour.

Flame retardant UV coatings for parquet

Completely new system is required to fulfil Cfl-S1 according to EN13501-1:

- Ordinary UV lacquers achieve class Dfl on 4 mm veneer
- Special flame retardant sealer
- 15 g/m² is required of the special sealer to achieve class Cfl

Can be combined with:

- Ordinary sealer for even better abrasion resistance
- Special top coat to improve fire retardant properties of the system
- Tested acc. to: ISO 9239-1

WoodWash for parquet

- WoodWash preserves the original colour of wood
- Very good effect achieved on oak, ash, beech, maple and pine substrates

Hydrophobic edge protection

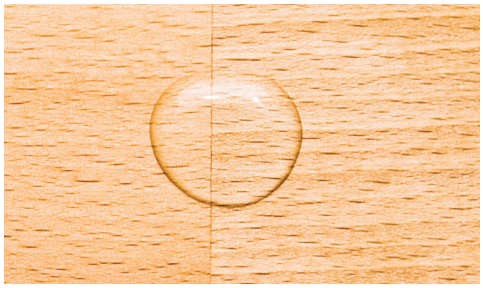
Our water-based hydrophobic edge protection lacquer for treatment of the wood before being cut and glued to the board.

- Applied by vacuum coater, spraying, brushes or roller
- Provides an invisible protection layer
- Lasts for at least 30 mins. when exposed to water

Excimer

With Excimer technology you have the possibility to reach very low gloss on top coats without matting agents, i.e. no risk of thickening of top coat in the roller coater. You can still have the same excellent micro-scratch resistance and even better chemical resistance as for ordinary flooring top coats.

Untreated ash. Light-coloured wood yellows easily.



The picture on the top shows the effect after 30 mins. of water exposure for our hydrophobic edge protector. No damage can be seen. The picture on the bottom shows the same coating and substrate without edge protection. Severe damage can be seen.

Ash coated with an ordinary non-yellowing UV system Much of the yellowing comes from the wood itself.

WoodWash for parquet. Very low yellowing even after 100 hours of exposure. Perfect for protecting all light-coloured wood species.

Natura Wax

Combinesnaturalbeautyofoxidativedrying oilswithfastsurfacecuringofUVproducts. Hybridvegetable/UV-oilforwoodenfloors. Penetrates well into the wood substrate without forming a film. Gives a water repellentsurface.Speciallydesignedforroller coatingapplication.*Dryingtostack,fully curedafter24hours.Verylowconsumption, fast process.

Parquet Pro Wax Oil

Hard wax oil with a very good protection. Givesanaturallookofthewood.Highsolids, speciallydesignedforindustrialapplications.

UV Oil

We use renewable raw materials in a UV curable coating to give our customers the natural look and feel of a conventional air dryingoil,incombinationwiththespeedand productivity of a UV coating.

Advantages:
– Excellent resistance to dirt pick-up
– Natural appearance with good chemical resistance
– Don't maintain unless required
– More than 50% renewable raw materials

UV hand filler

1-component 100% UV hand fillers:

Advantages:
– Monomer-free
– Ready to use after curing
– Through cure approx. 4-5 mm at 900 mJ/cm2
– Suitable for holes < 8 mm in diameter

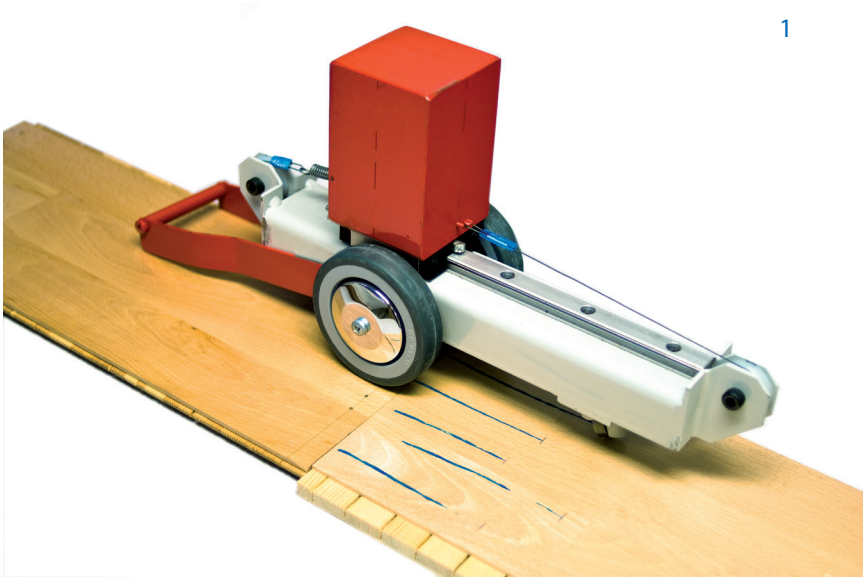
2-component 100% UV hand fillers:

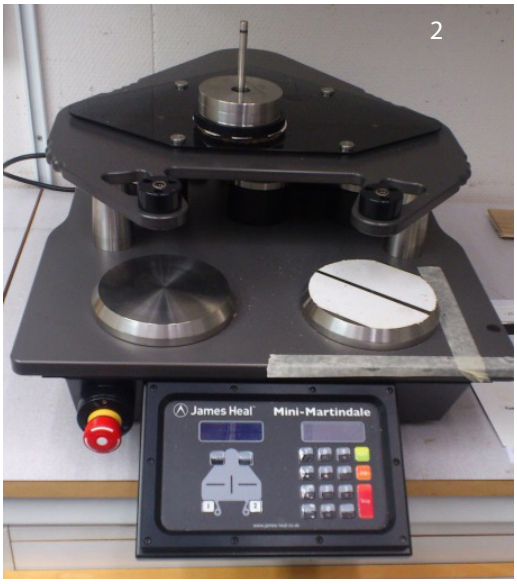
Advantages:
– Monomer-free
– UV curing creates a strong elastic film allowing immediate stacking (at 500 mJ/cm2, 1x120WHg)
– Perfect also for inert curing
– Pot life 25-35 min at 30°C
– Minimal shrinkage up to a diameter of 50 mm
– Very good adhesion

Parquet Pro products

We have a full range of waterbased maintenanceproductsforfinishingwooden floors on-site. We develop these products in close cooperation with experienced users around the world and the measure of their success is a growing number of new customers. Third-party laboratories have tested these wood finishes and the results showoutstandingdurabilitywhencompared with competitor products.

This knot hole has a diameter of approx. 25 mm. Our 2-pack UV hand filler provides perfect adhesion and durability.





Testing standardsandprocedures

Wedeployvarioustestingequipmentwhencheckingour coatingsaccordingtoglobalstandards.Tofollowaresome examples.

1. Instead of using a coin, the tank test is the scientific method for evaluating a complete system. This provides both adhesion and cohesion values of a UV coating system.

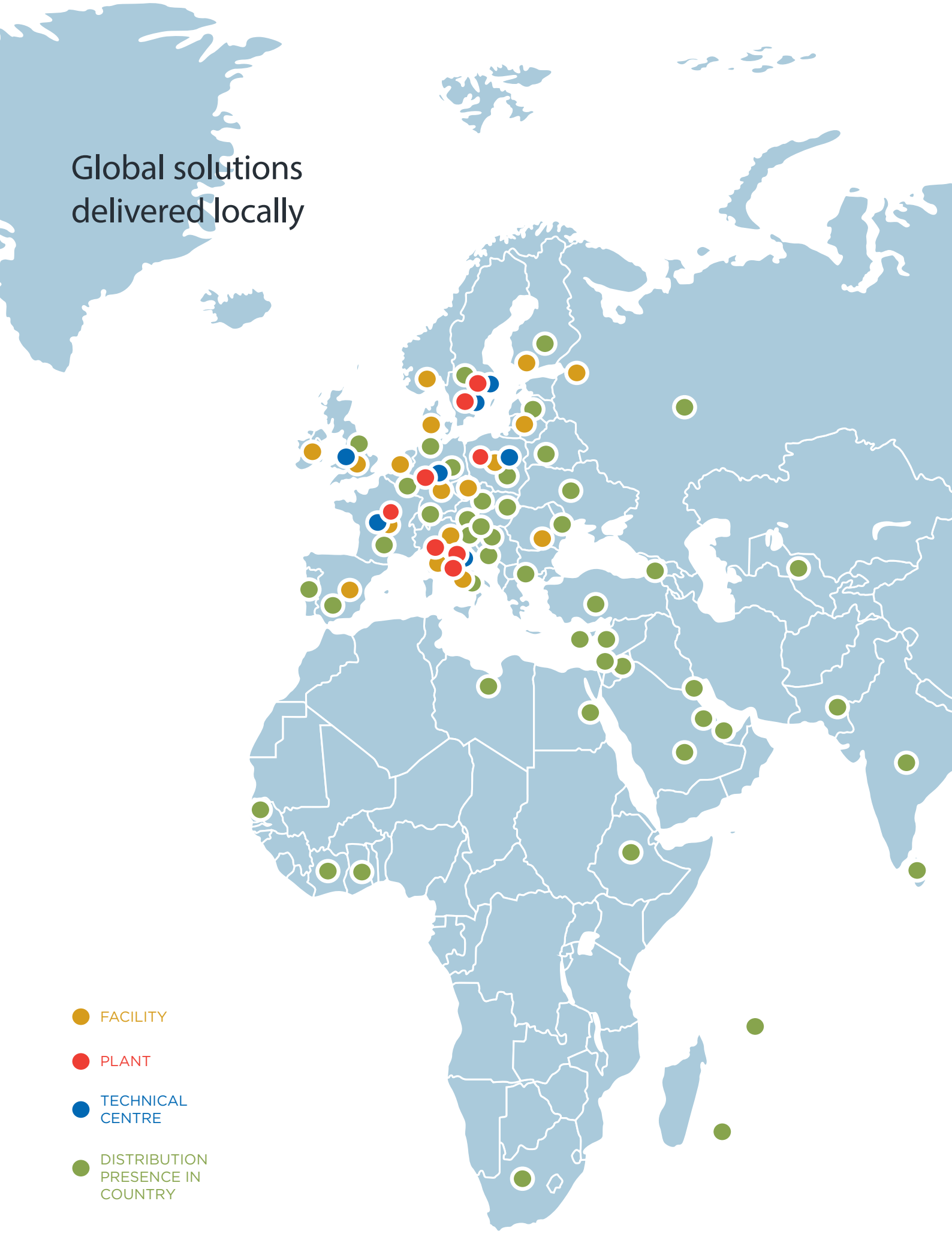
2. Mini-Martindale machine is used to compare micro-sctratch resistance of top coats.

3. “Hamberger planer” is a very good tool to evaluate sctartch resistance of a coating system.

4. Pull-off test is another test for evaluating adhesion to wood.

5. “Falling sand” method. Grit feeder and a "taber abraser" are used in this method.

Global solutions delivered locally



Sherwin-Williams – Your Coating Solutions Partner

TheSherwin-WilliamsCompany(SHW),throughitsProductFinishesDivision,isanindustrialcoatingsleaderthatdeliverslocalfinishingsolutions onaglobalscaletoOEMsandtiersuppliers.Comprisedofcoatingsprofessionalsdedicatedtoprovidingunparalleledcustomersupport, Sherwin-Williamsbringsvaluetothefinishingprocessthroughsolutionslikeon-sitetechnicalassistance,customizedproducts,colourand designservices,andprocessimprovementexpertise.Withinnovativeliquidandpowdercoatingtechnologiestoprotectwood,metaland plastic,aswellasfinishingequipmentandsuppliesneededforcoatingsapplication,Sherwin-Williamsutilizesaninfrastructurespanningsix continents to provide better finishing solutions for manufacturers.

Since1866,Sherwin-Williamshasprovidedmanufacturersandfinisherswiththecoatingstheyneedtomaketheirproductslookbetterandlastlonger, whilehelpingtheiroperationsmeetproductivityandsustainabilitygoals.Forbothwoodandgeneralindustrialmarkets,ourinnovativesolutionsgobeyond coatings to include knowledge, tools, equipment, supplies, and industry-leading support.
We're more than a coatings provider – we are Your Coating Solutions Partner.

Visit us at www.sherwin-williams.eu

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