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SPRAYSHOP FAULT FINDER

SYMPTOM	CAUSE / ACTION
<p>Cissing.</p> <p>Surface defects appearing as craters or fish eyes on the surface.</p>	<p>Cissing is often a result of contamination by Wax, Silicone or Oil. It is important to identify the source of the contamination before further work is attempted.</p> <p>Check Airlines as a possible source. Drain filters and check air quality.</p> <p>Remove any aerosols from the finishing area.</p> <p>Check all items that have physical contact with the surface to be coated: gloves, rags, sanding pads etc.</p> <p>Items for rework will require special attention.</p> <p>In extreme cases additives can be used but advice should be obtained from your lacquer supplier.</p>
<p>Orange peel.</p> <p>Uneven surface texture like the skin of an orange.</p>	<p>Orange peel can be caused by a number of factors: poor atomisation of the coating, the spray gun is being held too far from the surface, inappropriate thinning or items being hot when sprayed. Ambient shop conditions can also be a factor.</p> <p>Ensure the tip/pressure cap combination is appropriate for the coating and the air pressure is sufficient.</p> <p>Keep the gun tips 15-20 cm from the object being sprayed. (6-8 inches)</p> <p>Ensure the thinner being used is the recommended product and sufficient has been added to achieve correct spraying viscosity for the tip, air cap and needle combination.</p> <p>Ensure the items to be sprayed are at room temperature.</p>
<p>Bubbling/Frying</p> <p>Small bubbles on the surface or trapped in the coating.</p>	<p>The bubbles can be caused by solvent boiling in a forced drying environment, air introduced into the lacquer in high pressure feed systems, inappropriate shop conditions or too high a film weight.</p> <p>Ensure the recommended thinners are being used at the correct level for the application equipment.</p> <p>Check temperatures and reduce if needed.</p> <p>Ensure the recommended film weight is being applied.</p> <p>Air movement, humidity and temperature are at reasonable levels. In extreme cases a retarded thinner can be used.</p> <p>Seek advice from your lacquer supplier.</p>



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<p>Chilling.</p> <p>The surface of the coating takes on a hazy appearance.</p>	<p>Chilling is a result of moisture forming on the lacquer surface.</p> <p>Ensure the shop temperature and humidity are at reasonable levels (18-22°C and 55-65%RH)</p> <p>Ensure the recommended thinners are used.</p> <p>Prevent any drafts from entering the spray shop.</p> <p>In extreme cases an anti bloom thinner can be used. Seek advice from your lacquer supplier.</p>
<p>Over spray.</p> <p>The lacquer has a gritty texture.</p>	<p>Overspray is a result of particles of semi dried lacquer settling on the finish.</p> <p>This excess can be a result of too high a pressure at the gun and or the gun being held too far from the surface being sprayed. High ambient temperatures can also be a factor.</p> <p>Ensure the correct thinners and amount is being used.</p> <p>Keep the gun tips 15-20 cm from the object being sprayed. (6-8 inches)</p> <p>Ensure the air pressure is not excessive. Ensure shop temperatures are not too high >22°C</p>
<p>Pin Holes.</p> <p>Tiny holes in the surface of the coating.</p>	<p>Pin holes can be caused by lacquer drying too fast, incorrect overlapping spray pattern or incorrect thinning.</p> <p>It can also be a result of too high air pressure or using high solids fast drying sealers on large pore timbers.</p> <p>Thin sealers on open pore substrates to wet the grain completely.</p> <p>Check the drying conditions are not excessively hot and if required add the recommended retarder.</p> <p>Overlap spray pattern correctly.</p> <p>Reset the air pressures to recommended levels.</p> <p>Ensure even wet coats of sealer at the recommended film weights.</p>



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<p>Contact Marks / Scratching.</p> <p>The coating is damaged in use.</p>	<p>Using the incorrect coating family is the common cause of this problem. Pushing the furniture into service before sufficient drying times is also a factor plus errors in mixing two pack materials.</p> <p>Always check the mixing ratios for two pack materials before use.</p> <p>Ensure you understand the durability requirements of the furniture being produced. Pre-catalysed products have many advantages but currently cannot exceed General/Careful use to BS6250.</p> <p>Acid catalysed and Polyurethane coatings are readily available to a Severe rating.</p> <p>Allow sufficient drying times.</p>
<p>Slow drying.</p> <p>The product is taking excessive time to dry.</p>	<p>Cold damp conditions with poor airflow will cause poor drying. Too heavy an application or using the wrong catalyst / mixing ratio will further retard lacquer drying. It is also linked to some repair products.</p> <p>Heavy use of retarder is an obvious cause. Always use the correct catalyst and mixing ratio. Maintain good conditions in the finishing shop.</p> <p>If the coating does not dry on a repair product contact the lacquer supplier for a suitable system.</p> <p>If you need to use excessive quantities of retarder look for the reason for its use or contact your lacquer supplier.</p>
<p>Printing.</p> <p>The lacquer surface is figured by packing materials or surface pressure.</p>	<p>Printing is a result of a soft incompletely dried film.</p> <p>Ensure the correct thinners and levels are being used. (If you have used retarder thinners allow extra drying).</p> <p>Ensure the correct coating weights are being applied.</p> <p>Ensure that any drying systems are fully functional and the recommended drying times are followed.</p> <p>Ensure the recommended packing times are followed.</p>
<p>Sagging.</p> <p>The lacquer begins to flow after application on vertical surfaces.</p>	<p>Sagging is a result of the product being too low in viscosity / too high an application weight.</p> <p>Ensure the correct thinners are being used at the correct amount for the product.</p> <p>Ensure the recommended application weight is being applied on the substrate.</p>



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<p>Sinkage.</p> <p>The lacquers build falls away over time.</p>	<p>The lacquer film contracts and the grain / surface texture of the substrate becomes apparent. Insufficient drying times between coats, unsuitable product for required build or excessive tinting with stains or over thinning can all lead to this issue.</p> <p>Ensure sufficient drying times are given to each coat.</p> <p>Ensure you are using the correct product to achieve the required build on the substrate.</p> <p>Use the recommended thinners at the correct amount.</p> <p>When tinting the lacquers with stain ensure a compatible product is used and at the correct amounts.</p>
<p>Poor adhesion.</p> <p>Surface coats of lacquer delaminating from substrate / previous coats.</p>	<p>Poor adhesion can be a result of an insufficient mechanical key, excessive drying of previous coats or incompatible surface preparations/ stains or fillers.</p> <p>Poor adhesion to the substrate can result from contamination with wax, oil or grease or the use of paint strippers.</p> <p>If contamination is suspected contact your lacquer supplier for advice.</p> <p>If products such as paint strippers have been used it is vital to neutralise them before commencement of polishing.</p> <p>When using higher durability coatings it is important to sand well before the application of the next coat.</p> <p>Two component systems offering higher durability will require good surface preparation after extended drying periods just prior to application of a second coat.</p> <p>Ensure compatible stains and fillers are used.</p>
<p>Crazing.</p> <p>The lacquer adopts a wrinkled appearance.</p>	<p>Crazing or rucking is caused by the action of the current coat of lacquer swelling the previous coat of material and can be a result of using incorrect thinners, insufficient drying time for the previous coat or incorrect hardener ratio in the previous coat.</p> <p>Use the recommended thinners at the correct ratio.</p> <p>Ensure previous coats have had sufficient drying.</p> <p>Ensure the correct Hardener ratios are used.</p> <p>If tinting the lacquer with stain ensure the correct product is used at the recommended levels.</p>



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<p>Stearate Bloom</p> <p>The lacquer forms an oily haze.</p>	<p>Some sanding agents used in traditional sanding seals are incompatible with pre-catalysed or acid catalysed products resulting in a chemical reaction.</p> <p>Ensure the recommended sealer / lacquer combinations are used.</p>
<p>Discolouration on light woods.</p>	<p>Discolouration can be caused by action of the hardeners in some two component systems and UV light from the sun stimulating the maturing process of the wood. Contamination of clear coatings with stains in busy production environments has also been known.</p> <p>Always clean shared spray equipment well before use with clear lacquers.</p> <p>Use a suitable isolation sealer where acid catalysed products are to be used.</p> <p>Seek the advice of your lacquer supplier for low yellowing coatings specifically design for light coloured substrates where higher colour stability is required.</p>
<p>Patchy stain colour.</p> <p>The stain shows excessive tonal changes across the finish often against the grain.</p>	<p>Uneven colour can be caused by poor application or poor surface preparation. Air assisted airless systems require more care because of the larger droplet size.</p> <p>Ensure the substrate has been sanded evenly to a high standard. Ensure the stain is not applied too dry or unevenly. With high absorbency substrates like pine it is more important to apply with the grain.</p> <p>In spray wipe applications ensure the surface is wet enough to allow wiping evenly in a circular motion followed by levelling with the grain.</p>

This guide is offered to assist in self diagnosis of common finishing faults.

The remedial actions assume that the compressor is working to manufactured tolerances and regularly drained. Moisture and Oil filters are fitted no more than 2-4 metres from the gun and the tip, air cap and needle combination are suitable for the intended use as recommended by the equipment manufacturer.