

# Troubleshooting Guide



<b>Problem</b>	<b>Orange Peel/Roughness</b>	<b>Logo Bridging</b>	<b>Twinning</b>	<b>Sticking and ripping off coating</b>	<b>Scuffing</b>
<b>Description</b>	<b>Rough or uneven surface of the tablets</b>	<b>Filling of the logo or the break line</b>	<b>Two or more tablets stick together</b>	<b>Tablets rip off the coating from each other</b>	<b>Gray layer forms on the tablet surface</b>
<b>Possible Reason</b>	<ul style="list-style-type: none"> <li>- Distance between nozzle and tablet bed is incorrect</li> <li>- Spray angle is wrong</li> <li>- Spray drying</li> <li>- Sedimentation of the dispersion</li> <li>- Viscosity/solid content is too high</li> <li>- Core properties are inadequate (high friability)</li> <li>- Atomizing air pressure incorrect (too low/high) (AA)</li> </ul>	<ul style="list-style-type: none"> <li>- Viscosity is too high</li> <li>- Plasticizer content is too low</li> <li>- Spray rate is too high</li> <li>- Atomizing air pressure is not right (too low/high)</li> </ul>	<ul style="list-style-type: none"> <li>- Overhumidification</li> <li>- Process air volume is too low</li> <li>- Tablet shape "planar" is not suitable</li> </ul>	<ul style="list-style-type: none"> <li>- Pan speed is too low</li> <li>- Air temperature is too low</li> <li>- Process air volume is too low</li> <li>- Spray rate is too high</li> <li>- Process is too damp</li> </ul>	<ul style="list-style-type: none"> <li>- Titanium dioxide quantity is too high</li> <li>- Interaction between drum wall and coating</li> </ul>
<b>Remedy</b>	<ul style="list-style-type: none"> <li>- Increasing the spray rate</li> <li>- Decreasing the drying capacity</li> <li>- Reducing the atomizing air pressure</li> <li>- Decreasing the viscosity</li> <li>- Optimizing the distance between nozzle and tablet bed</li> </ul>	<ul style="list-style-type: none"> <li>- Decreasing the viscosity</li> <li>- Increasing the plasticizer content</li> <li>- Reducing the spray rate</li> <li>- Adjusting the spray pressure (increase or decrease)</li> </ul>	<ul style="list-style-type: none"> <li>- Reducing spray rate</li> <li>- Increasing the drying capacity</li> <li>- Optimizing the form of the tablets to "biconvex"</li> <li>- Using release agents in the formulation</li> </ul>	<ul style="list-style-type: none"> <li>- Increasing the pan speed</li> <li>- Increasing the inlet air temperature</li> <li>- Increasing the process air volume</li> <li>- Reducing the spray rate</li> </ul>	<ul style="list-style-type: none"> <li>- Reducing the titanium dioxide</li> <li>- Spraying the drum prior to the trial</li> </ul>

<b>Problem</b>	<b>Capping</b>	<b>Color variation I</b>	<b>Color variation II</b>	<b>Peeling</b>	<b>Friability</b>
<b>Description</b>	<b>Detachment of the film surface</b>	<b>Batch has heterogeneous color</b>	<b>Individual tablets have heterogeneous color</b>	<b>Spalling of the film – possible cracking of the coating</b>	<b>Tablet mass reduced due to abrasion</b>
<b>Possible Reason</b>	<ul style="list-style-type: none"> <li>- Hygroscopic core</li> <li>- Disintegrants are used</li> </ul>	<ul style="list-style-type: none"> <li>- Coverage properties of the coating are insufficient</li> <li>- Solid content of the suspension is too high</li> <li>- Weight gain level is too low</li> <li>- Batch quantity is too low</li> </ul>	<ul style="list-style-type: none"> <li>- Application rate is too low</li> <li>- API interacts with the coating material</li> <li>- Low opacity</li> <li>- Active ingredients diffuse from the core</li> <li>- Overhumidification</li> </ul>	<ul style="list-style-type: none"> <li>- Tablet is swelling</li> <li>- Plasticizer content in coating suspension is too low</li> <li>- Tablet is too wet</li> <li>- Tablet hardness is too low</li> <li>- Tablet is outgassing</li> </ul>	<ul style="list-style-type: none"> <li>- Mechanical stress</li> <li>- Tablets are too soft</li> <li>- Tablets are too damp</li> <li>- Pan speed is too high</li> </ul>
<b>Remedy</b>	<ul style="list-style-type: none"> <li>- Using a subcoat</li> <li>- Optimizing process parameters</li> </ul>	<ul style="list-style-type: none"> <li>- Increasing the coverage properties of the coating (more pigments)</li> <li>- Reducing the solid content</li> <li>- Increasing the weight gain level</li> </ul>	<ul style="list-style-type: none"> <li>- Increasing the weight gain</li> <li>- Adapting the formula/changing the pigments</li> <li>- Increasing the coverage properties of the coating formulation</li> <li>- Using a subcoat</li> <li>- Increasing the tablet bed temperature</li> </ul>	<ul style="list-style-type: none"> <li>- Using a subcoat</li> <li>- Increasing the plasticizer content</li> <li>- Spraying with drier conditions</li> <li>- Increasing the film forming polymer</li> </ul>	<ul style="list-style-type: none"> <li>- Reducing the pan speed</li> <li>- Optimizing the core formulation</li> <li>- Spraying with drier conditions</li> <li>- Using the interval "jog mode" while heating cores</li> </ul>

**More support?  
Why not!  
Contact us.**

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