

The most common defects found when polishing are described in the Uddeholm brochure “Defect Chart and Hints for High Gloss Polishing of Steel Surfaces”.

The image displays a comprehensive defect chart for Uddeholm steel, organized into three columns. Each column contains a list of defects, their descriptions, hints for prevention, and associated 2D and 3D surface measurements. The defects include:

- PITTING:** Described as rounded pits aligned over the majority of the surface. Hints include shortening polishing time, using lower pressure, and avoiding undirectional movements.
- COMET TAILS:** Described as lines with a tail, dispersed over the majority of the surface. Hints include avoiding undirectional movements and using higher rotation speed.
- HOLE:** Described as regular or circular shaped holes. Hints include choosing a cleaner steel, using roller contact tools, and keeping polishing cloths clean.
- CRACKS (scratches):** Described as longitudinal cracks with micro-inclusions. Hints include cleaning workpieces, using roller contact tools, and ensuring the correct rotation direction.
- RELIEF:** Described as rounded burrs in all directions. Hints include choosing a cleaner steel, using roller contact tools, and decreasing polishing time.
- PEAKING:** Described as small, irregularly shaped peaks. Hints include choosing a cleaner steel material and using lower pressure.
- ORANGE PEEL:** Described as irregularly shaped holes and tails covering the majority of the surface. Hints include shortening polishing time and using roller contact tools.
- WAVINESS:** Described as longitudinal valleys. Hints include checking with balls that have good contact and ensuring correct rotation direction.
- DISCOLORATION/STAINING:** Described as discolored areas. Hints include using homogeneous microstructure, cleaning and drying workpieces, and covering the surface after polishing.
- HAZE:** Described as areas with lower gloss than the surrounding. Hints include choosing steel with homogeneous material properties and high rotation speed.
- BURN MARK:** Described as partial discoloration due to high surface temperature. Hints include using roller contact tools and avoiding high pressure.
- CRACK:** Described as linear features with a sharp bottom. Hints include checking from both ends and ensuring correct rotation direction.