

Figure 1.



Initial light wear-in, lightly polished surface, good contact pattern. Grind lines visible across the contact area.

Figure 2.



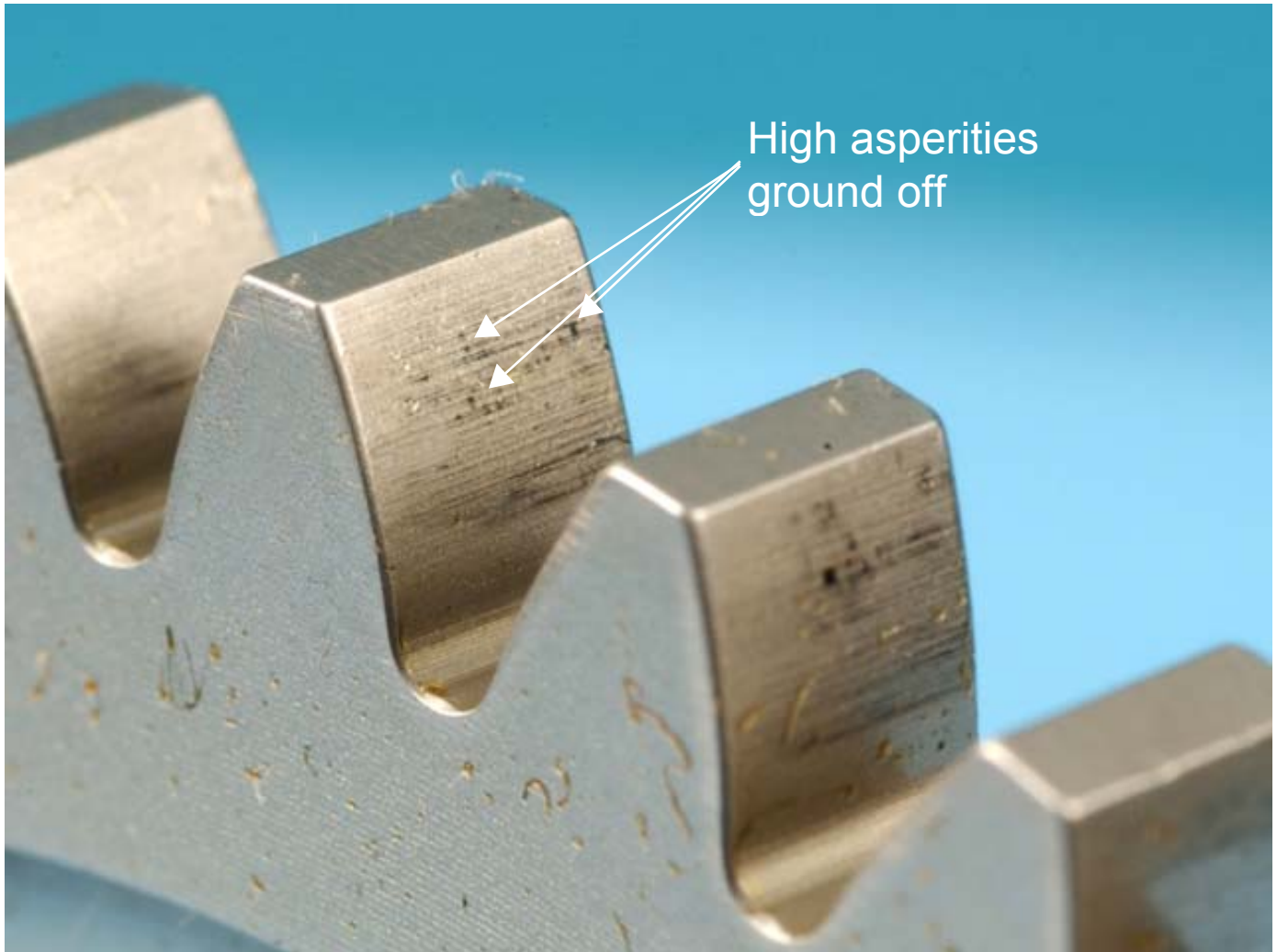
Light initial wear-in, no significant amount of material removed from the tooth surface. Good contact pattern. The surface is smooth, no wear steps are present.

Figure 3.



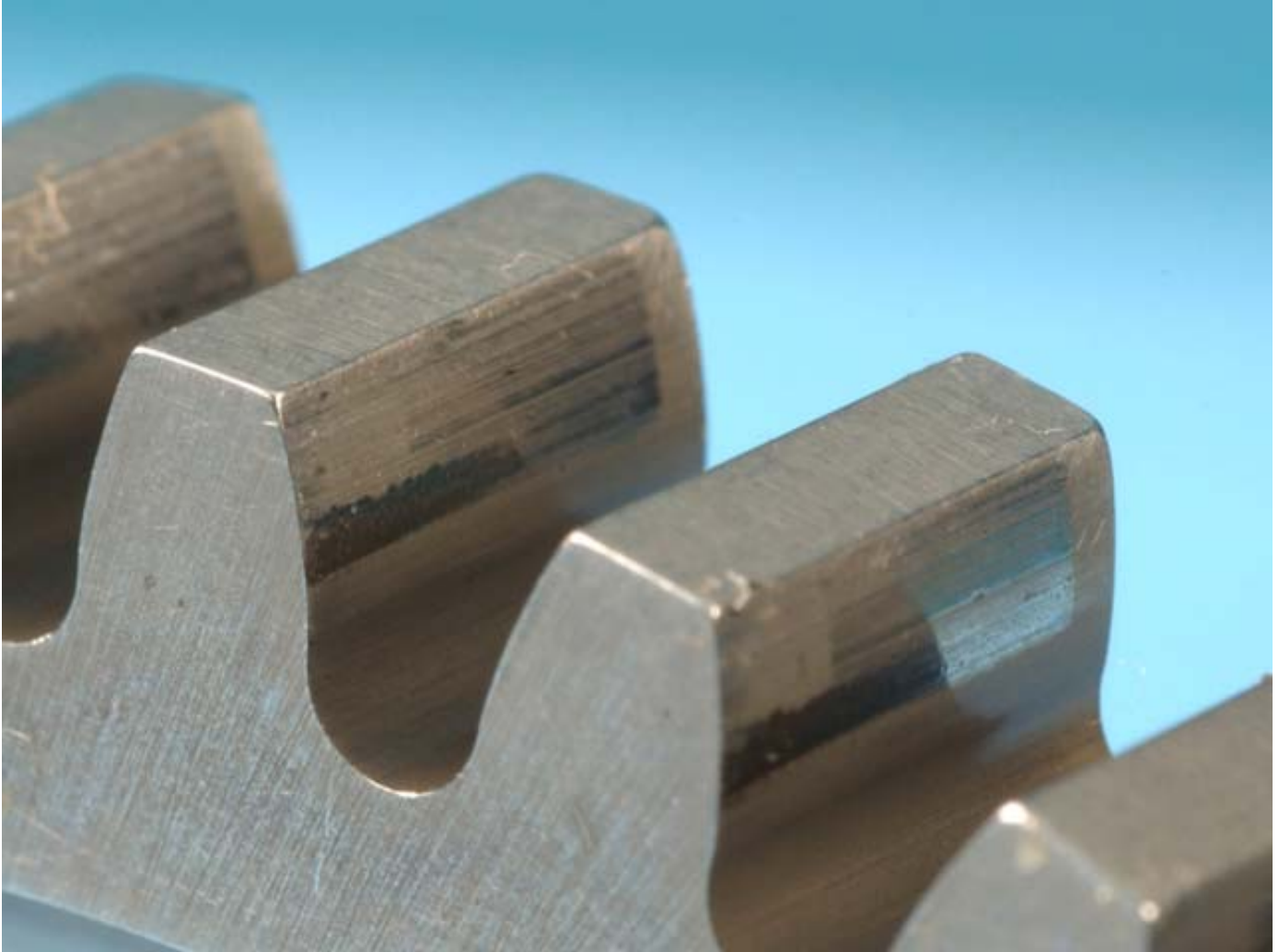
Very light contact pattern, no wear.
Grinding lines are visible across the
contact area.

Figure 4.



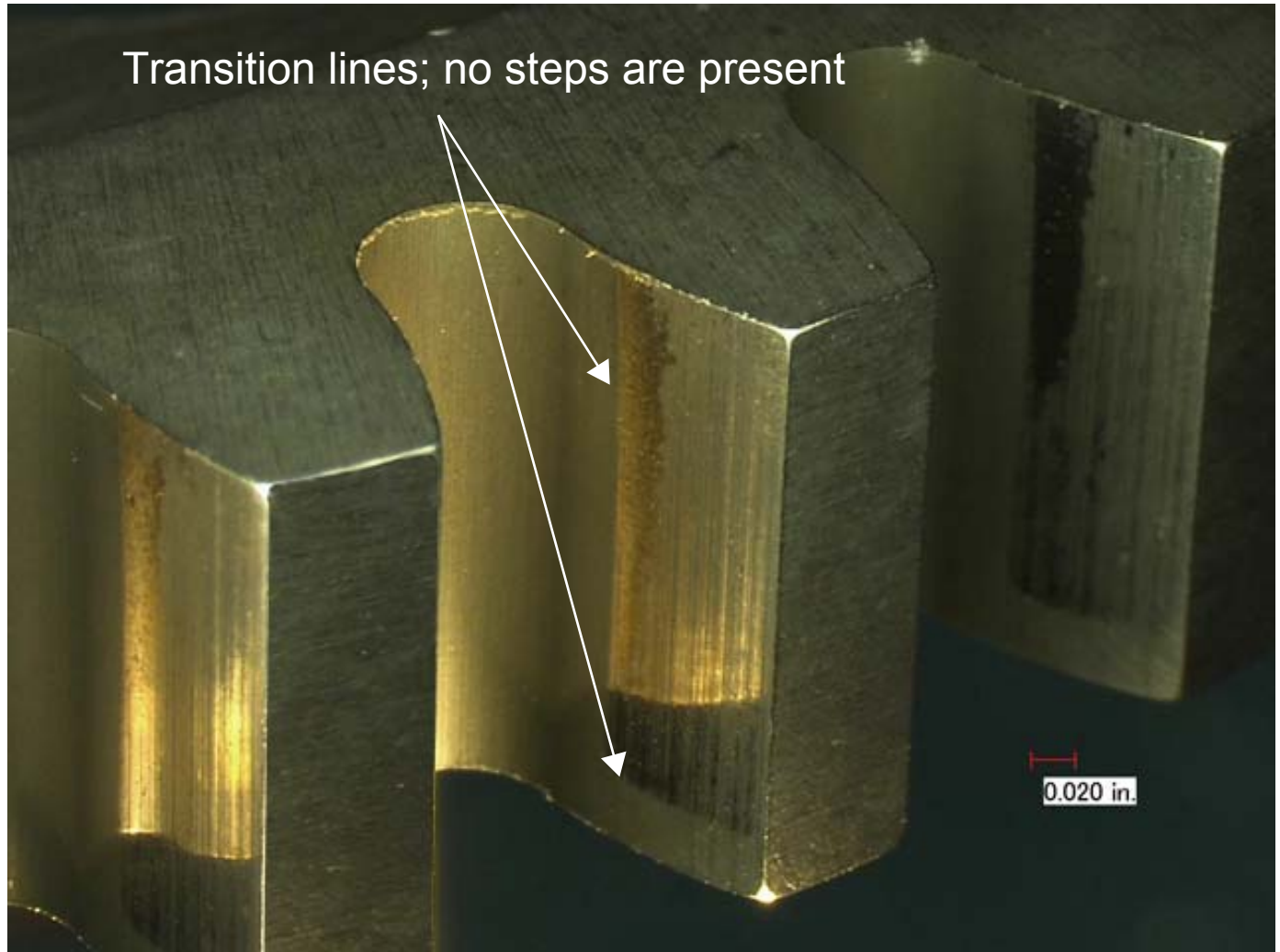
Very light initial tooth wear. Shiny spots represent high asperities on the tooth surface that were polished off.

Figure 5.



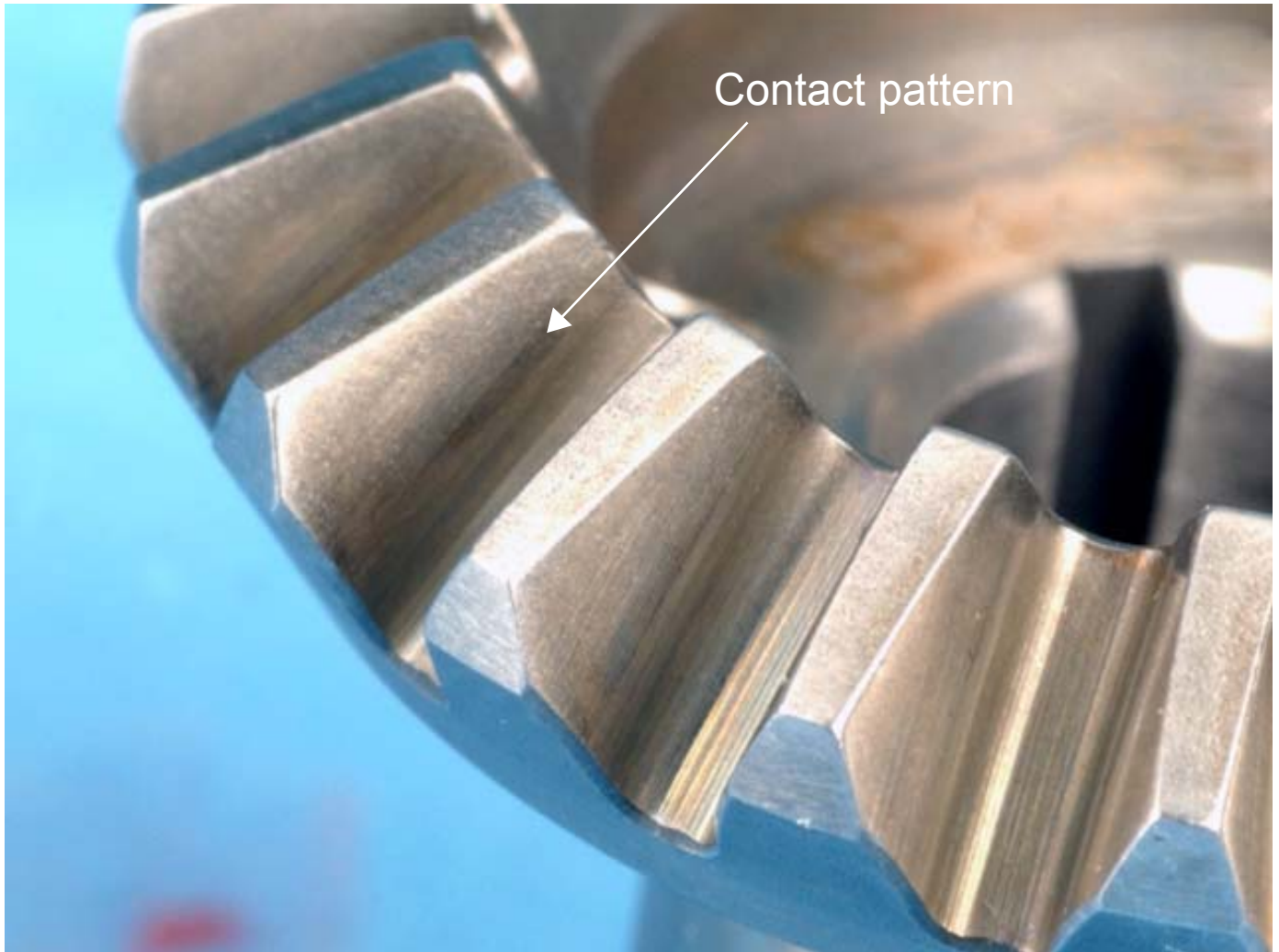
Initial very light wear in, polished tooth surface, only high asperities removed from the surface. grinding lines are visible.

Figure 6.



High tooth asperities are polished off revealing contact surface area with the meshing gear. There is no wear on the tooth surface. The transition line between shiny, polished surface where the contact with the mating gear occurs and the rest of the tooth is smooth, no step is present indicating a minimal amount of wear.

Figure 7.



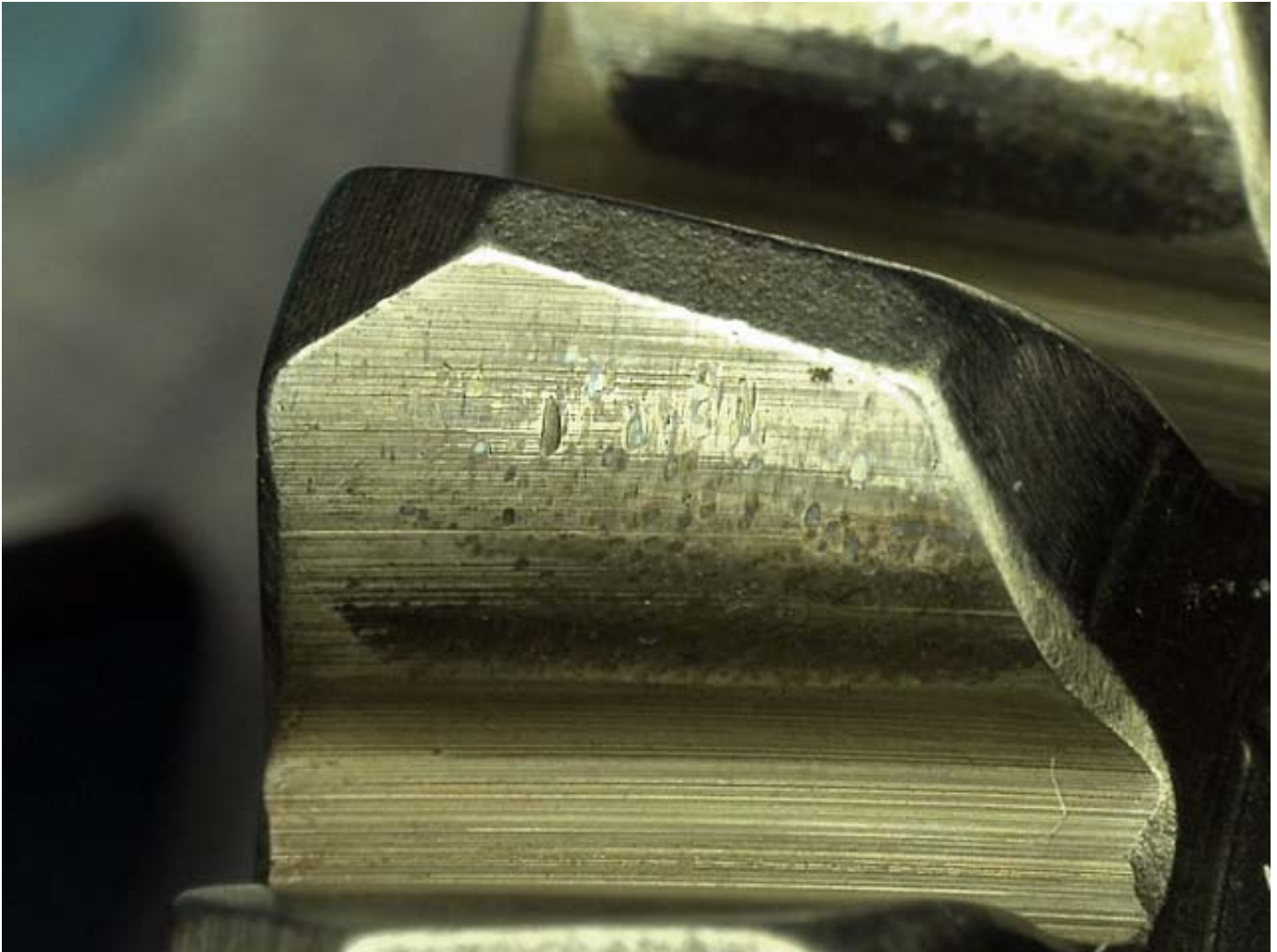
Light initial wear; good contact pattern.

Figure 8.



Good tooth pattern, high asperities polished off.

Figure 9.



Localized, shallow surface imperfections.
Light wear.

Figure 10.



Very light initial wear, good contact pattern. Grind lines are visible across the entire tooth width.

Figure 11.



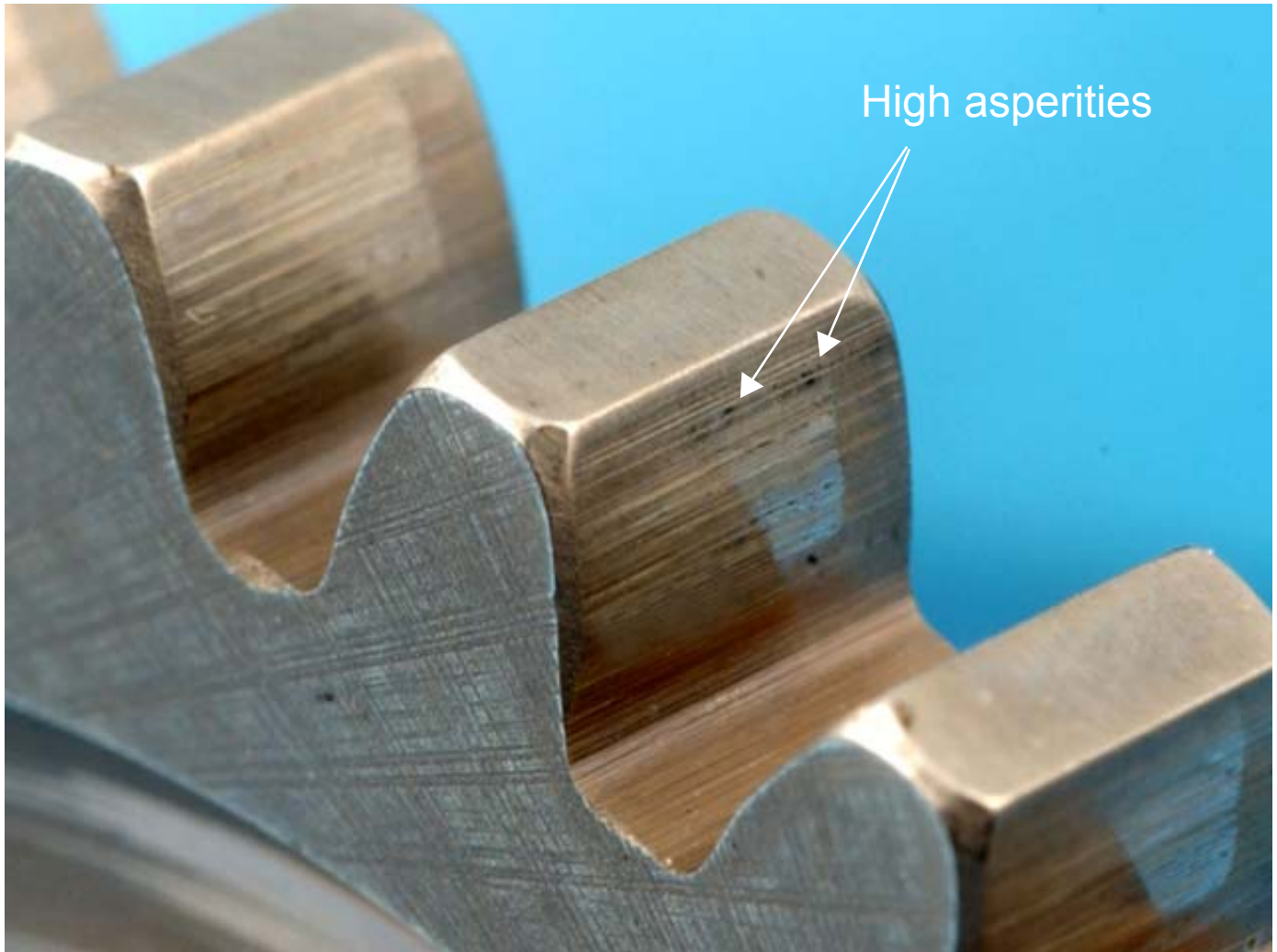
Black oxide is removed. Very light wear; grinding pattern lines still visible.

Figure 12.



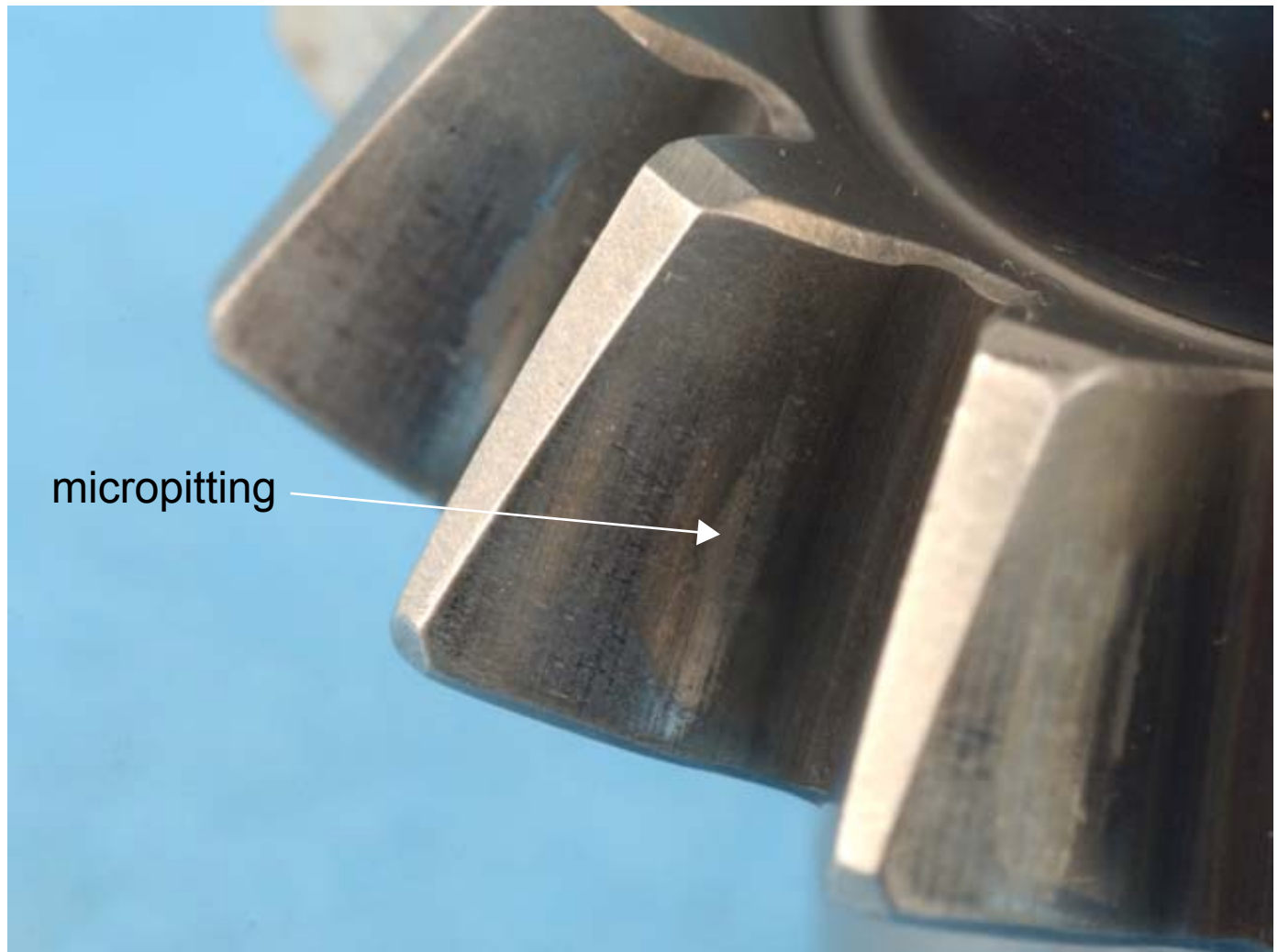
Initial wear-in, good contact pattern.

Figure 13.



Very light initial wear in, Shiny spots represent high asperities on the tooth surface that were polished off. Grinding lines still visible (in the lead direction) across the tooth surface.

Figure 14.



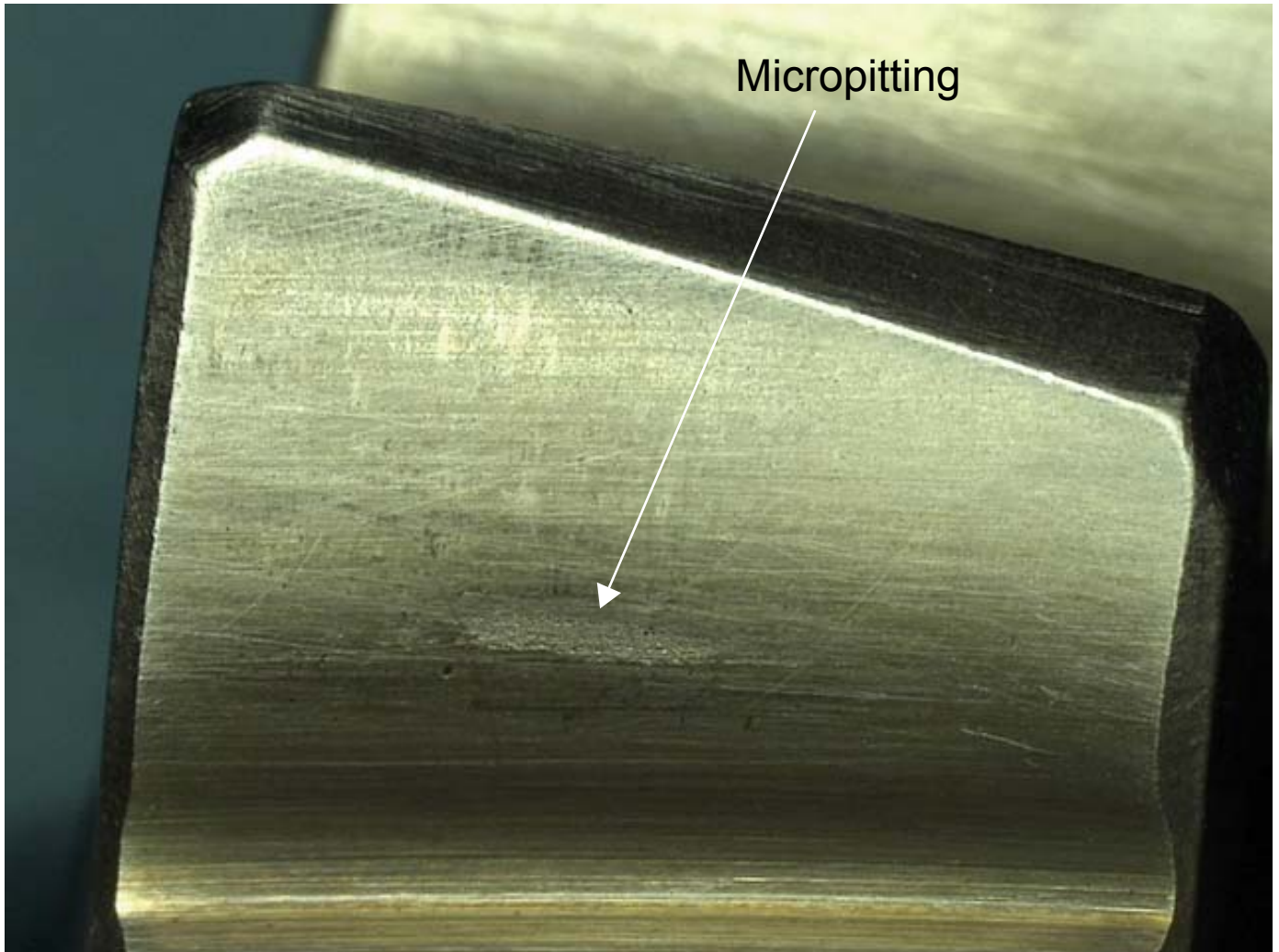
Light micropitting, good contact pattern. Grind lines are still visible across the contact pattern area indicating minimal surface wear.

Figure 15.



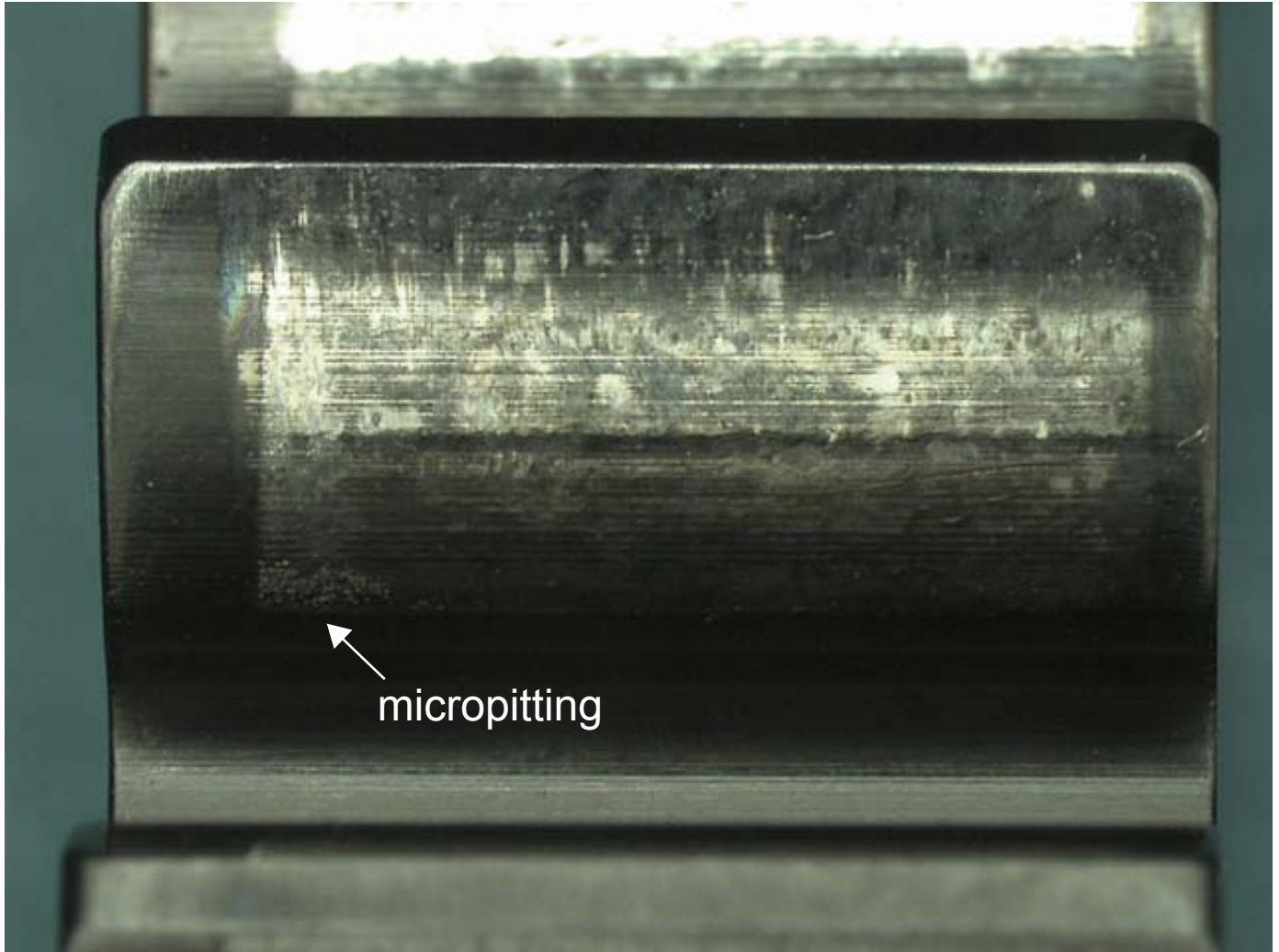
No wear on tooth surface. Initial light macropitting.

Figure 16.



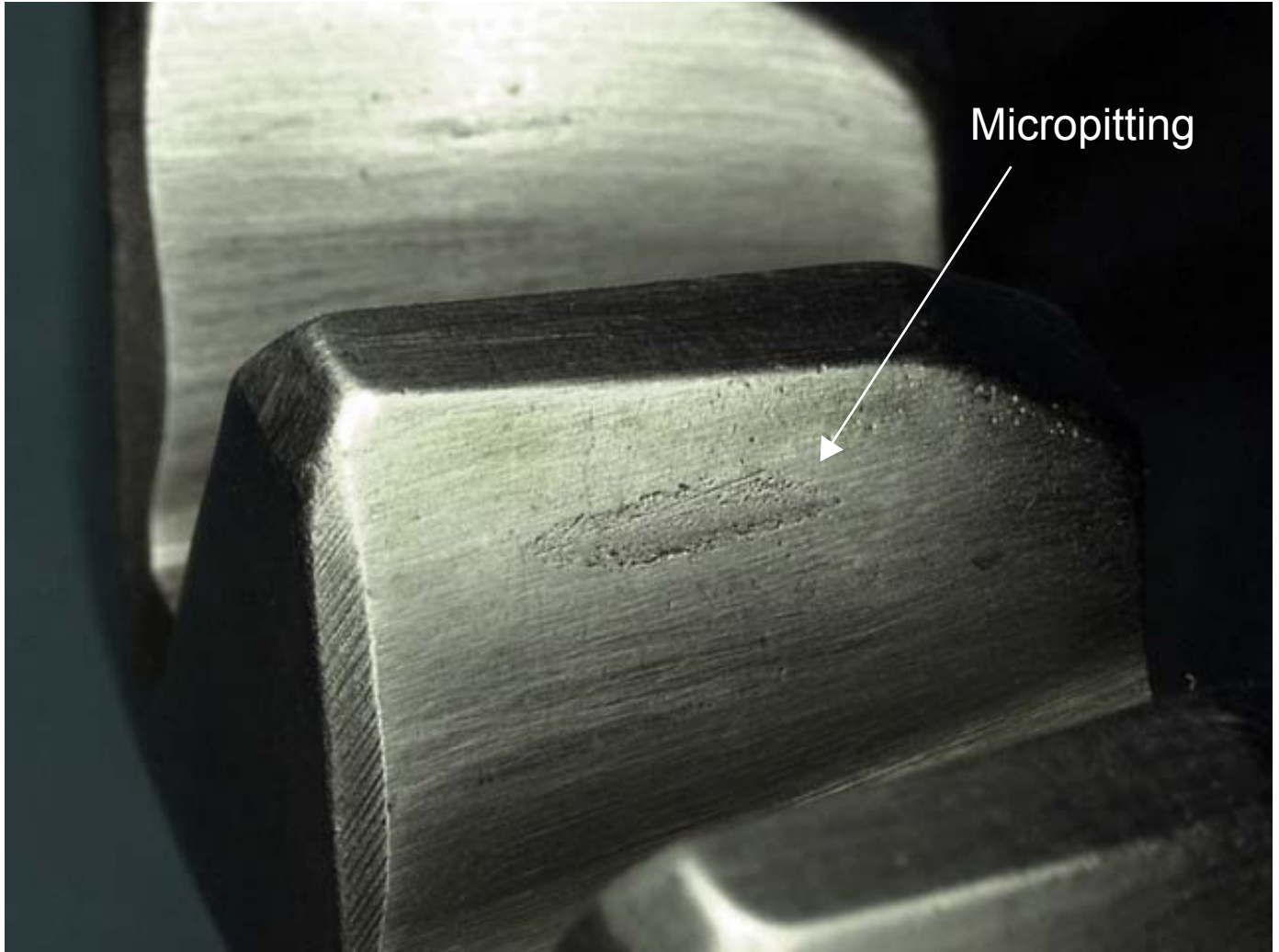
Light micropitting. Tooth profile is not affected.

Figure 17.



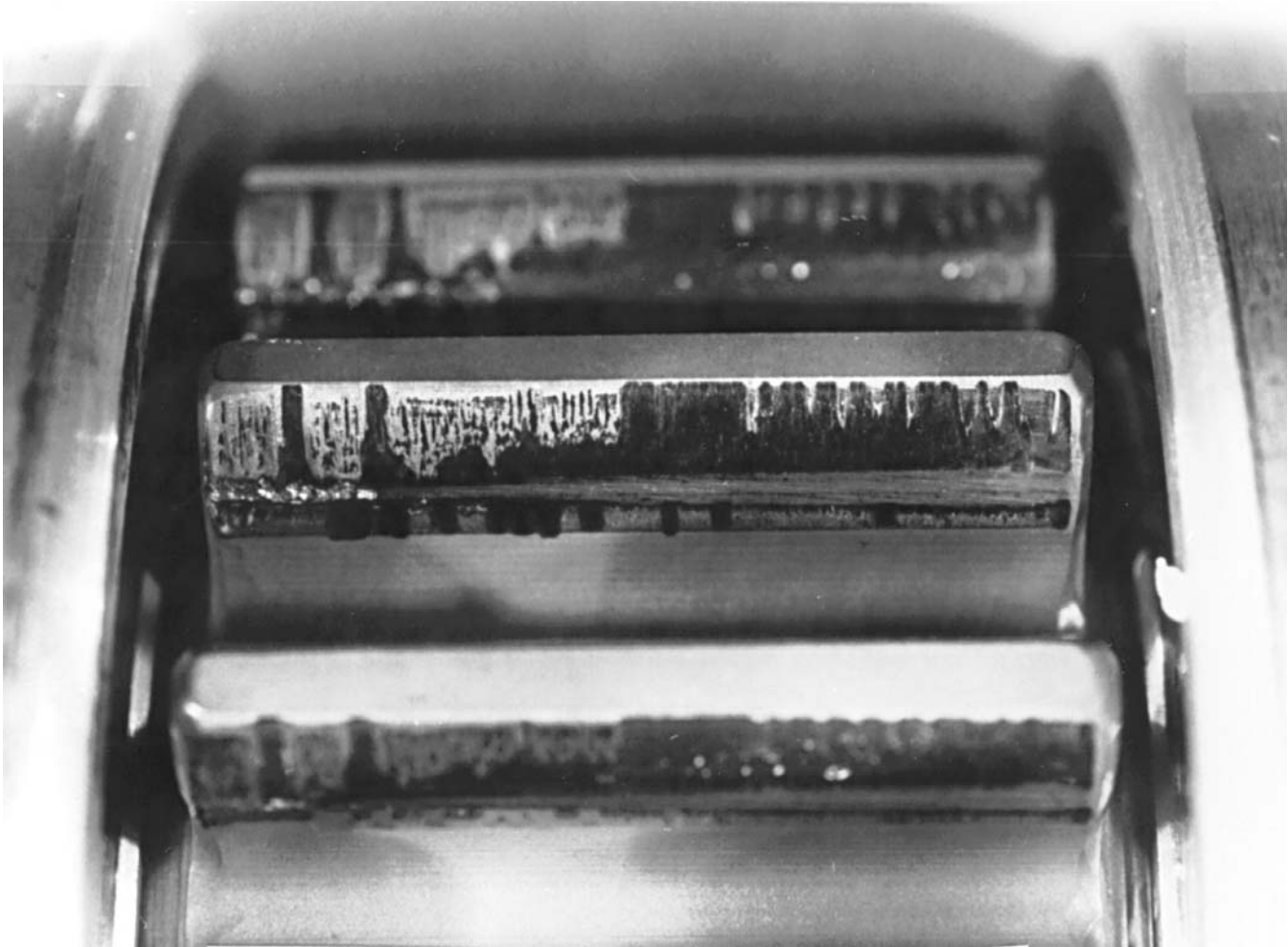
Initial light micropitting.

Figure 18.



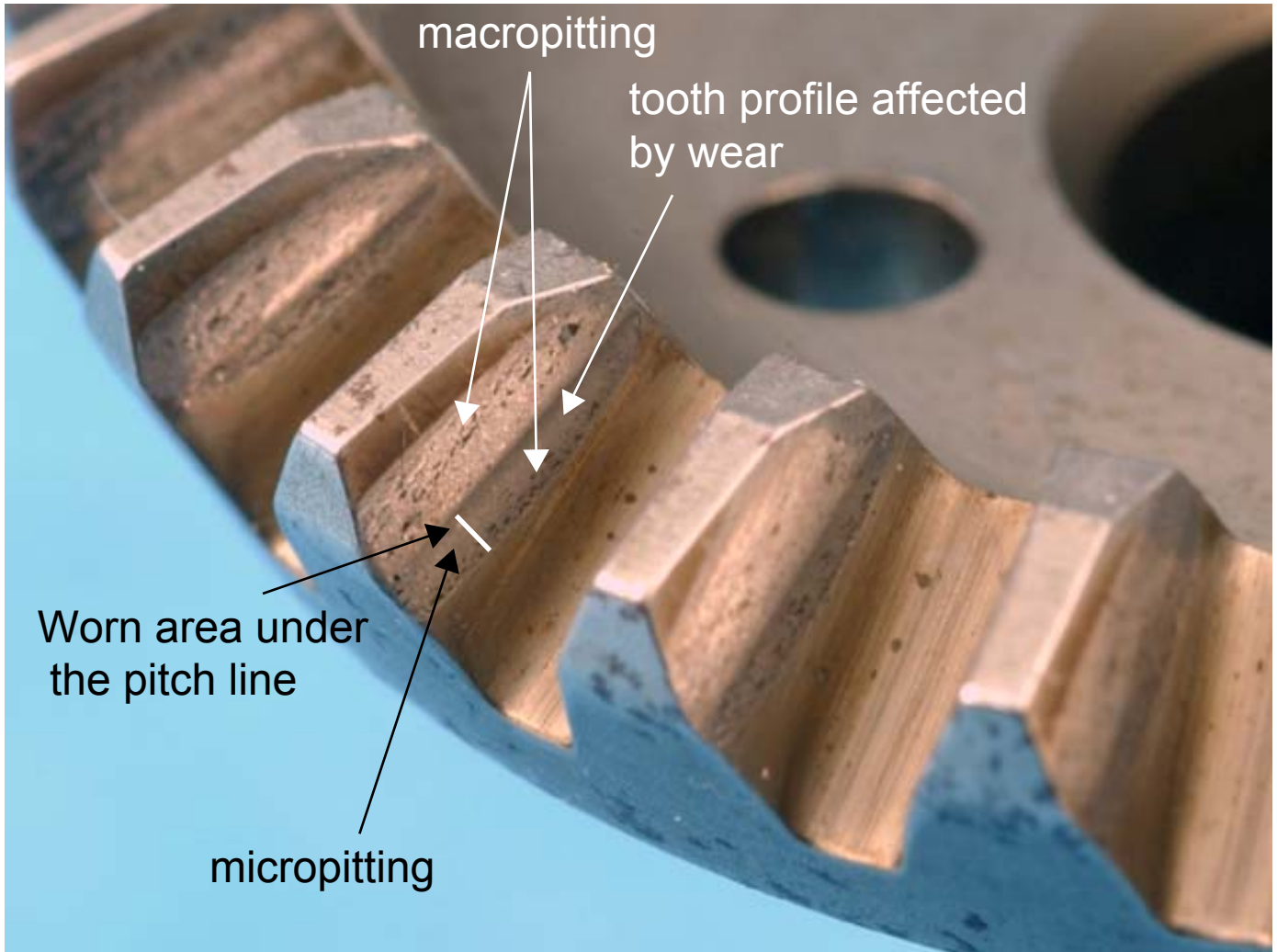
Initial, light micropitting.

Figure 19.



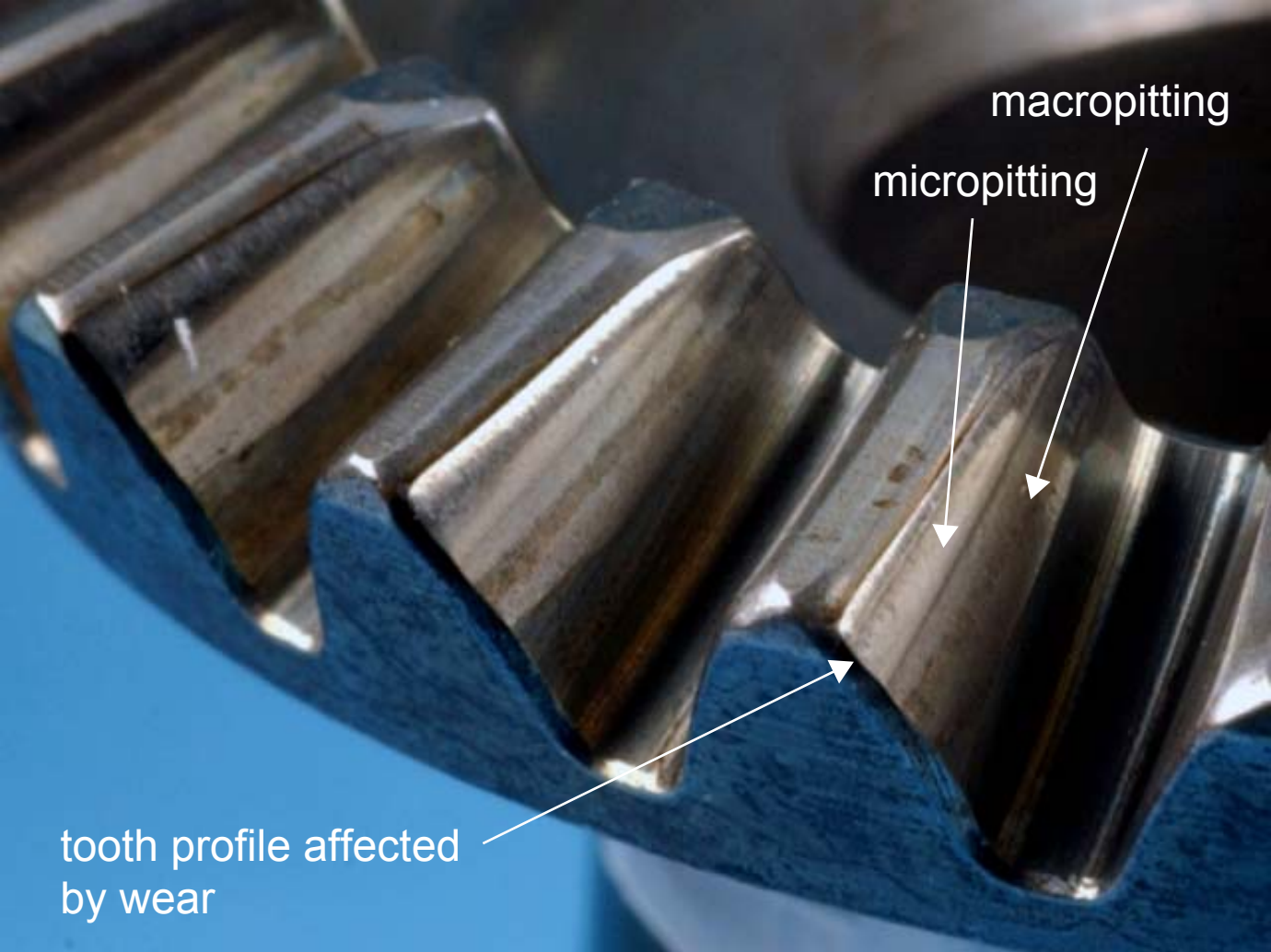
Heavy scuffing (scoring).

Figure 20.



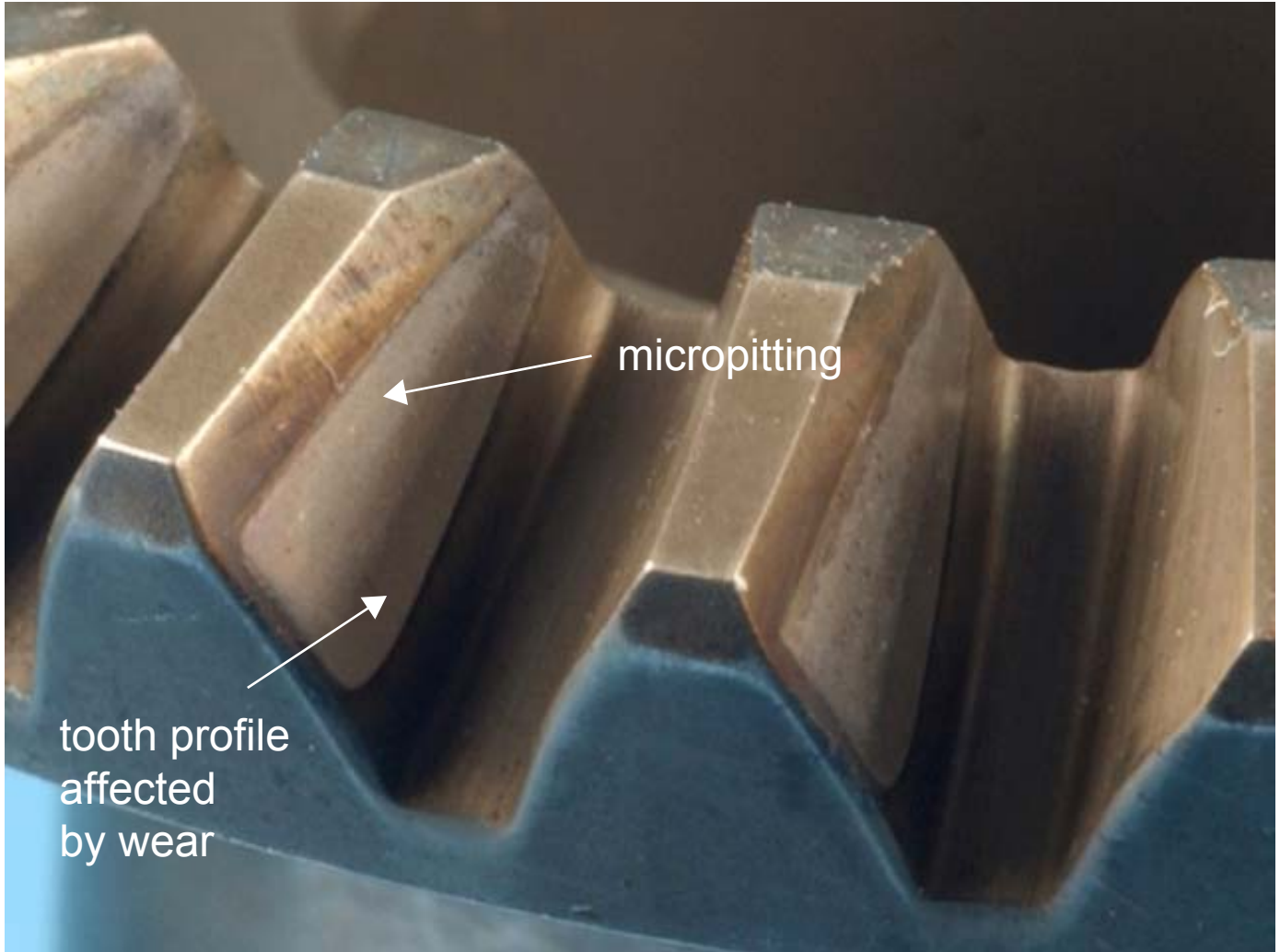
Worn tooth profile below the pitch line, heavy micropitting and initial macropitting. Dark area below the pitch line indicates a recessed, worn material.

Figure 21.



Heavy micropitting, wear and macropitting. Tooth profile above the pitch line affected by wear.

Figure 22.

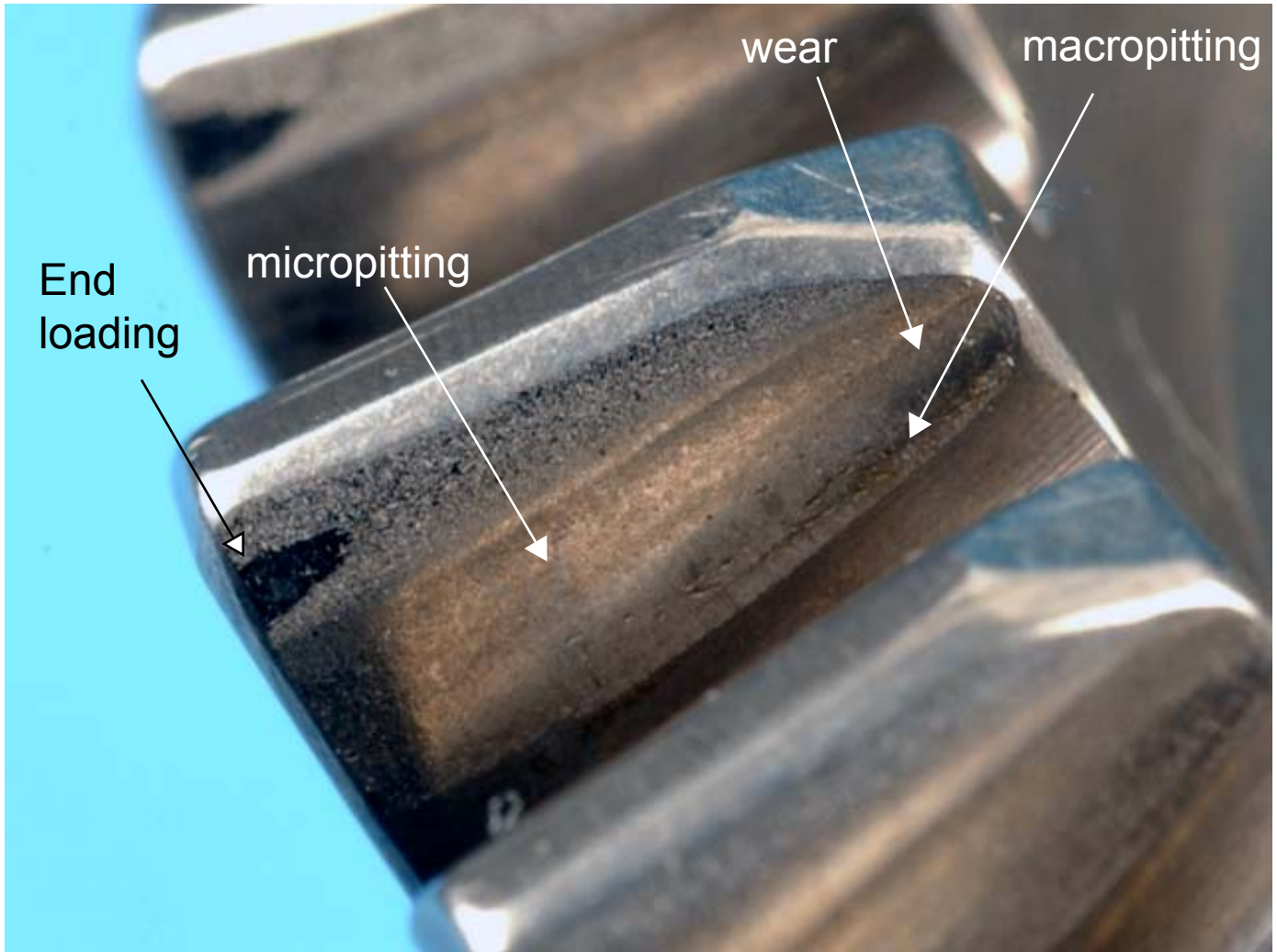


tooth profile
affected
by wear

micropitting

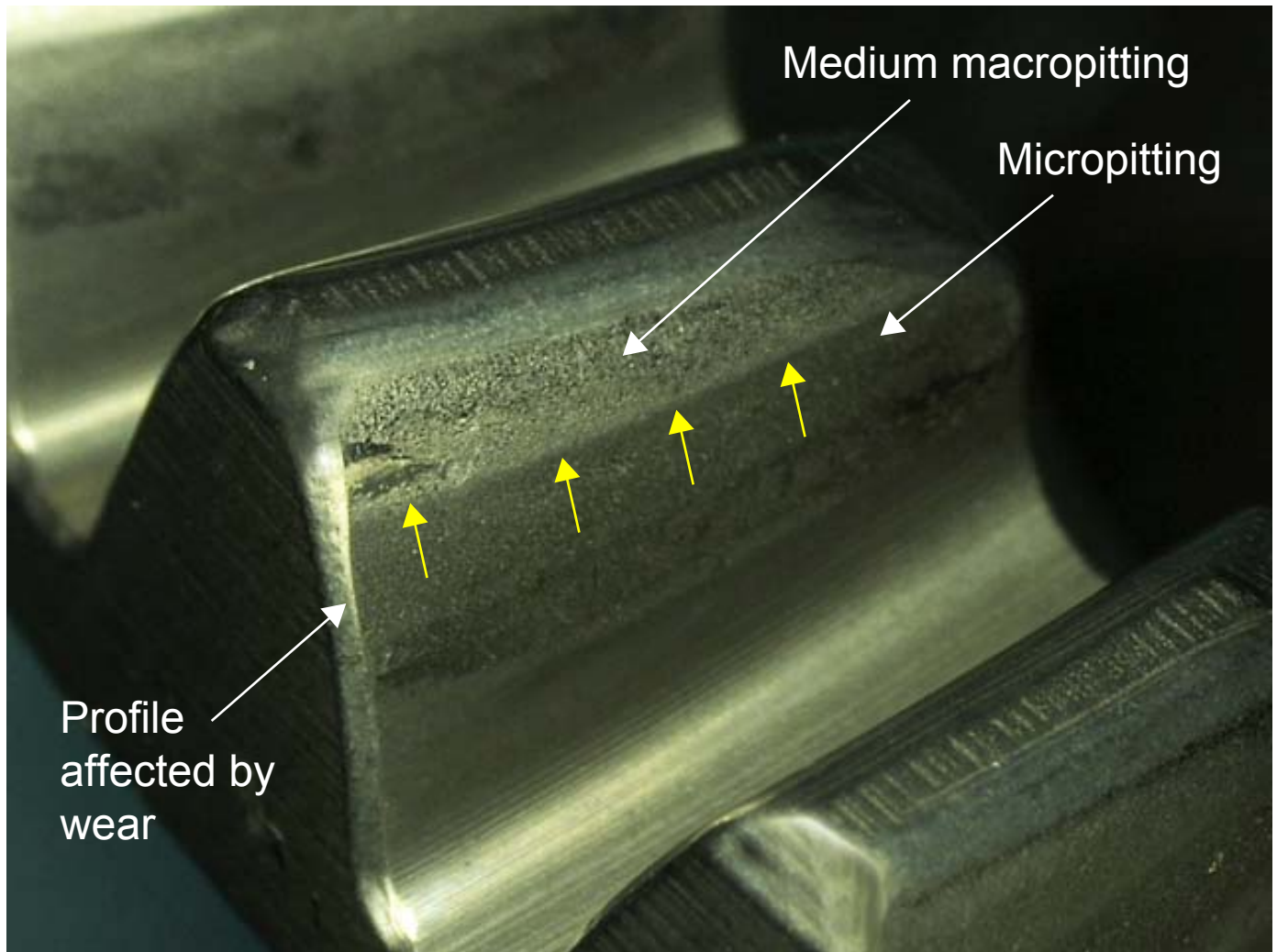
Heavy micropitting; tooth profile modified below the pitch line by medium wear. Darker surface represents recessed, worn area.

Figure 23.



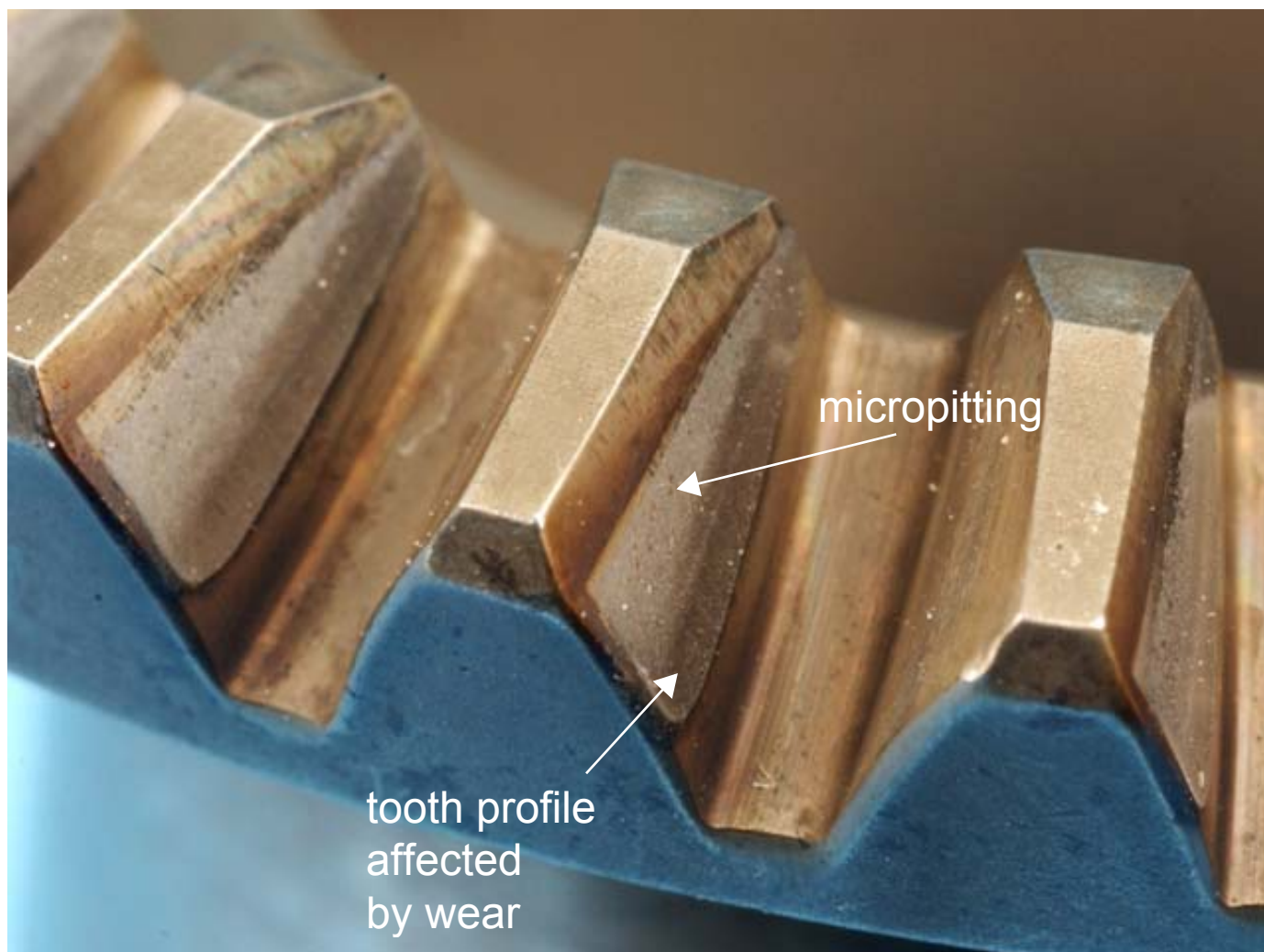
Heavy micropitting with medium macropitting and medium wear. Also visible end wear area due to unevenly distributed tooth loads.

Figure 24.



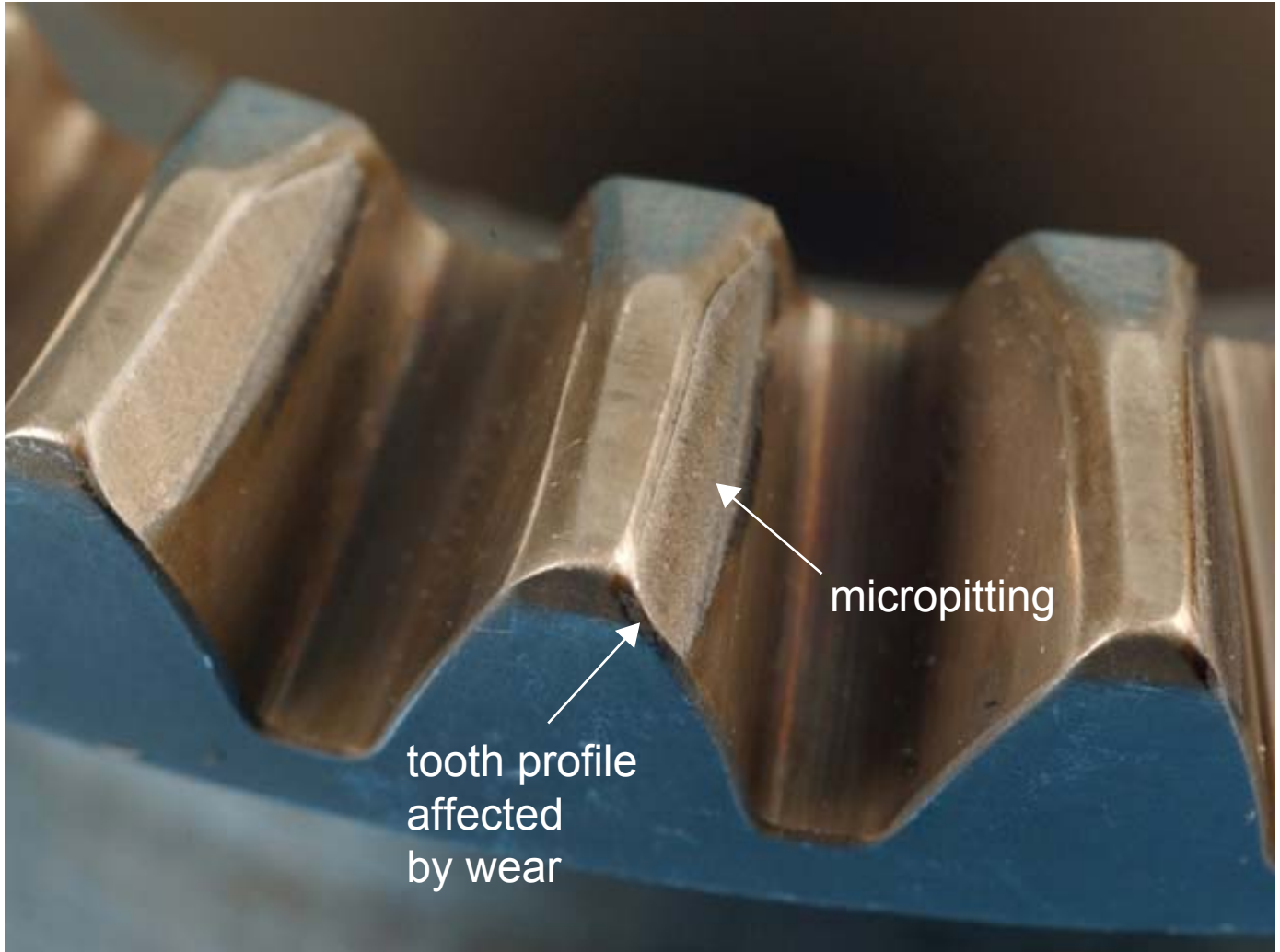
Macropitting and micropitting. Tooth profile modified by wear. Yellow arrows indicate the step on the tooth surface.

Figure 25.



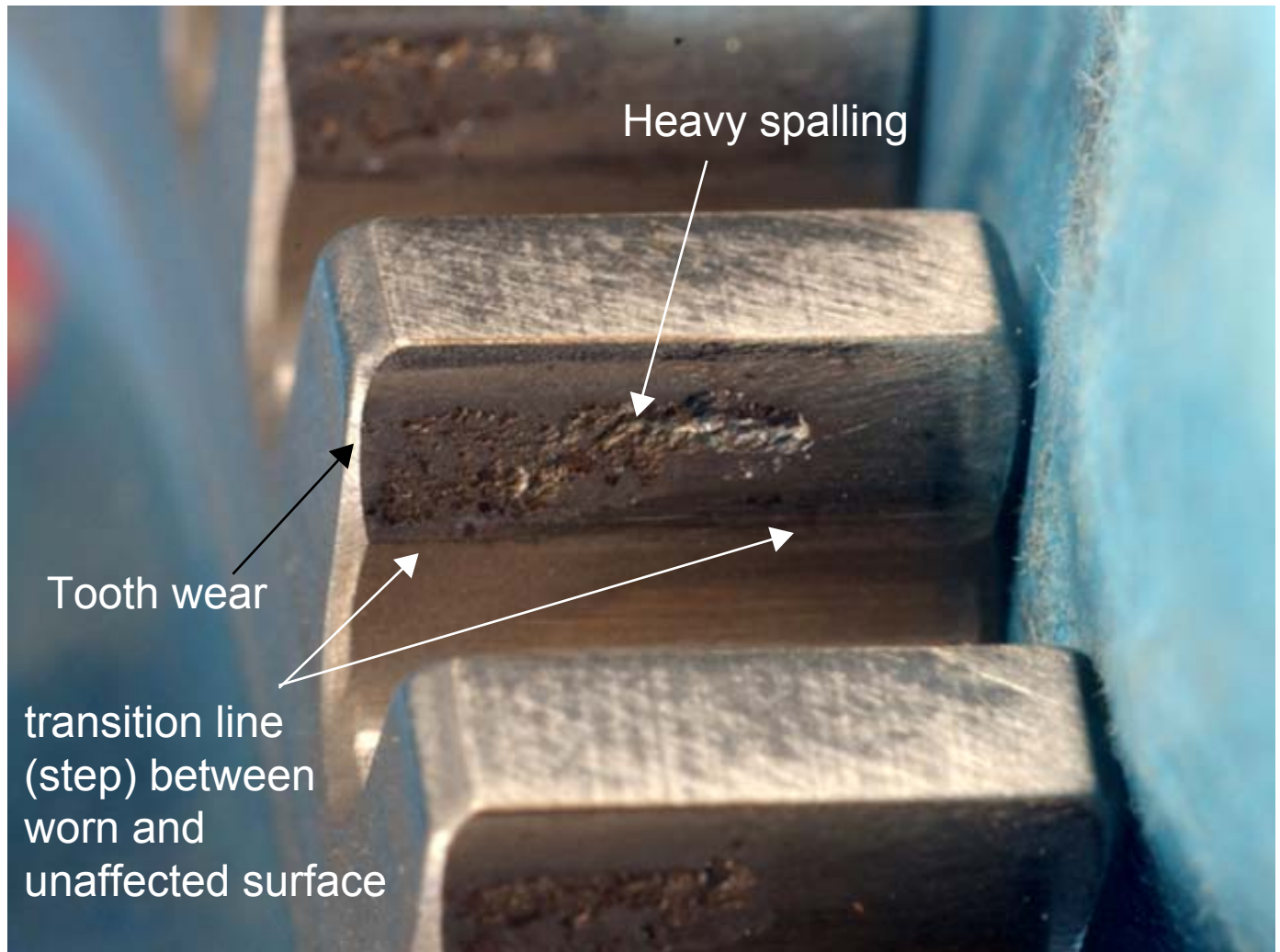
Heavy micropitting; tooth profile modified below the pitch line by medium wear.

Figure 26.



Micropitting above the pitch line of the tooth; tooth profile significantly affected by wear. The amount of wear can be estimated by looking at the edge of the tooth. Tooth profile curvature changes as the material is removed from the surface.

Figure 27.



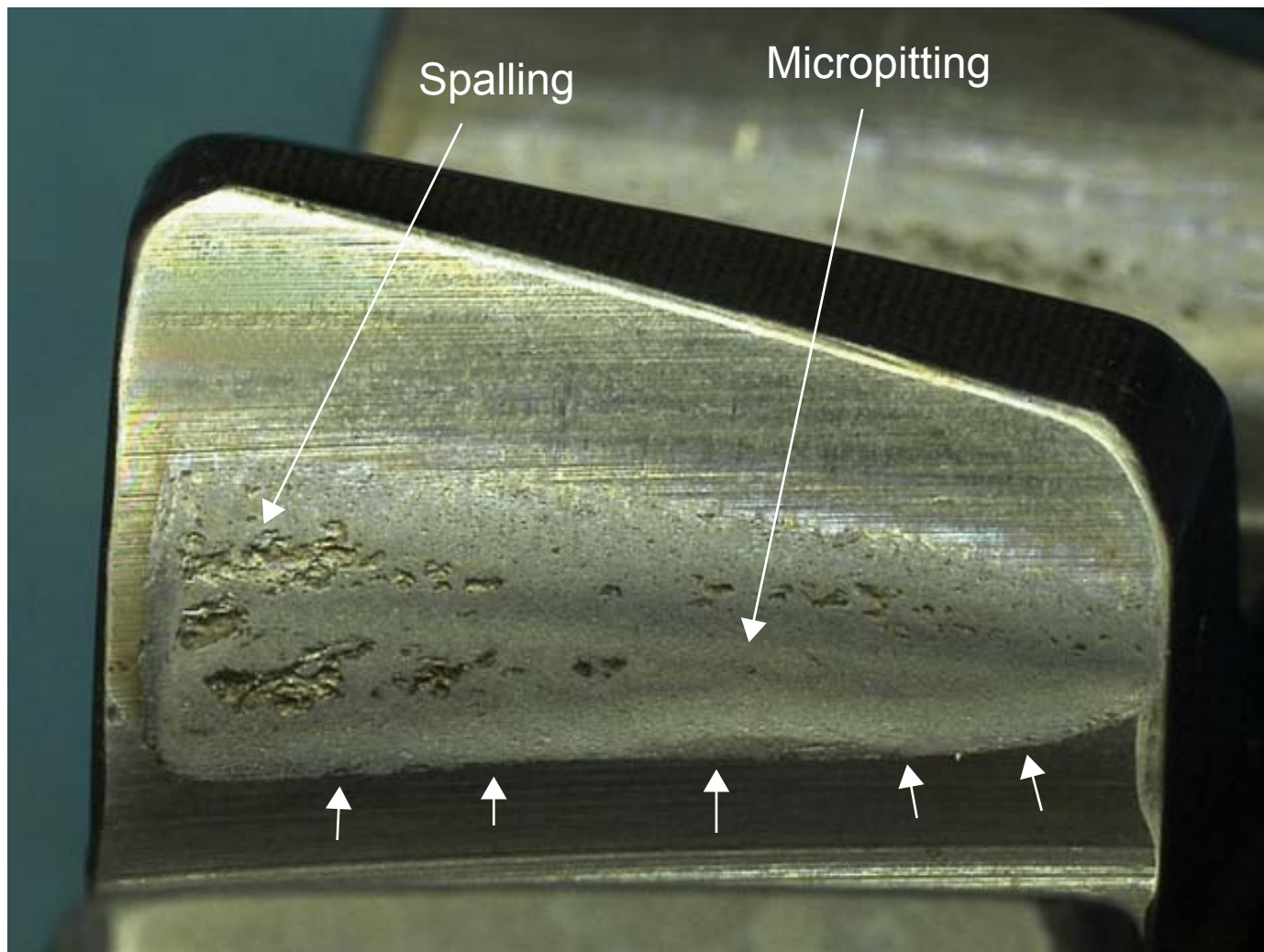
Heavy spalling and heavy wear. Tooth profile is significantly affected by wear.

Figure 28.



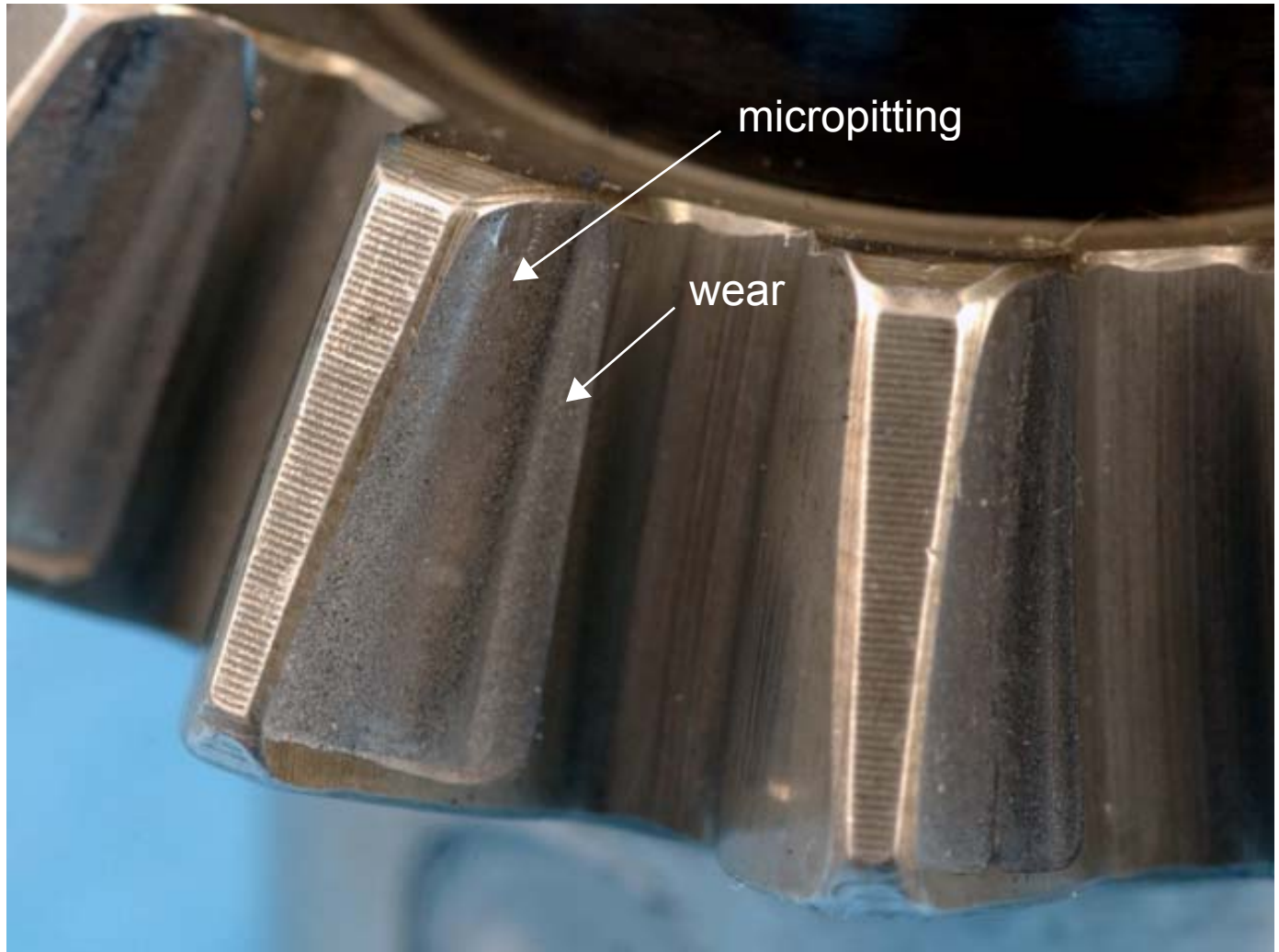
Wear below the pitch line of the tooth, medium micropitting and spalling.

Figure 29.



Medium micropitting and spalling. Tooth profile is affected by wear. White arrows indicate the edge (step) where the worn area starts.

Figure 30.



Wear below the pitch line of the tooth, micropitting.

Figure 31.

Wear in the addendum section of the tooth profile
(above the pitch line)

Wear in the dedendum section of the tooth profile
(under the pitch line)

Pitch line

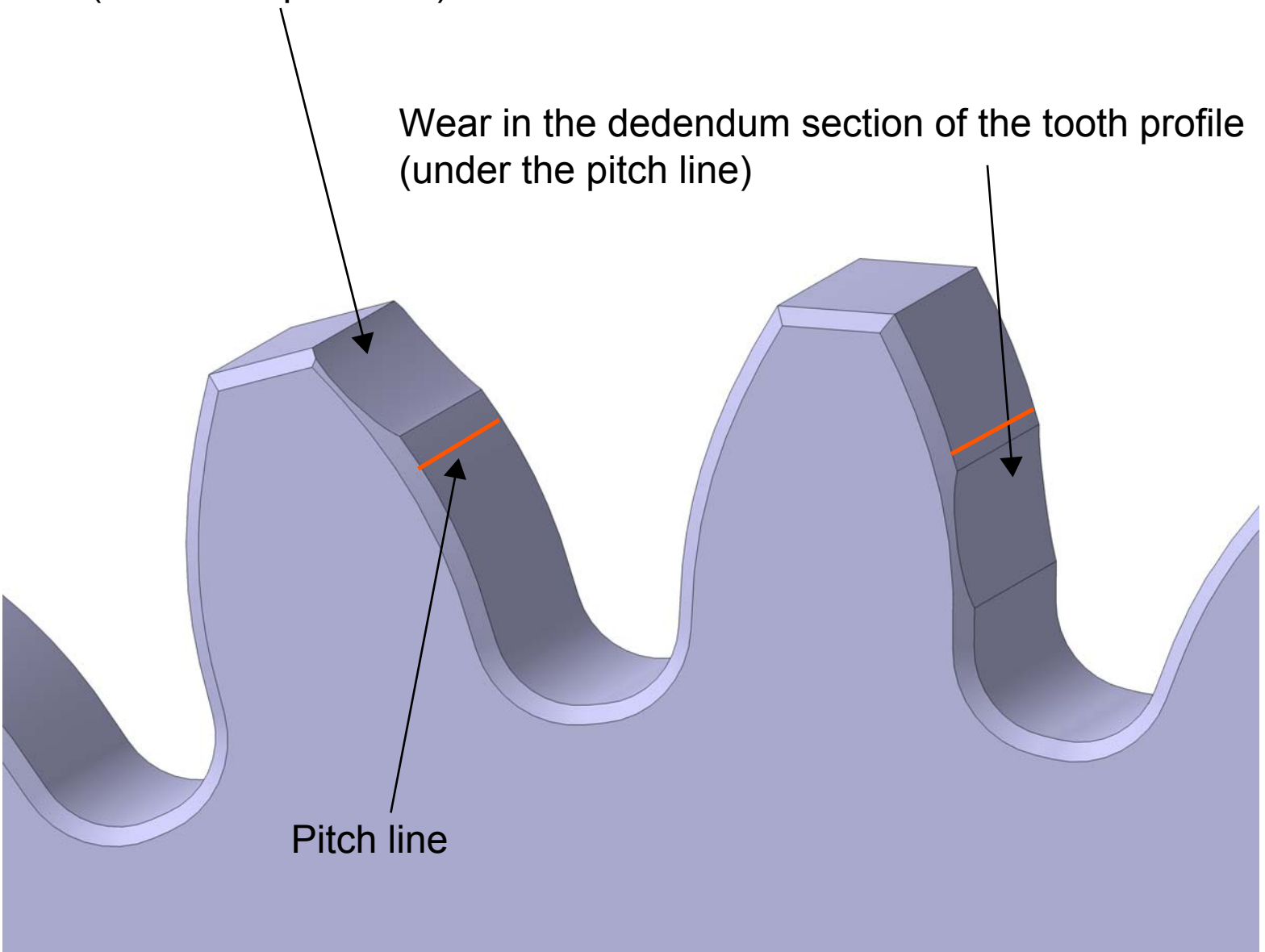
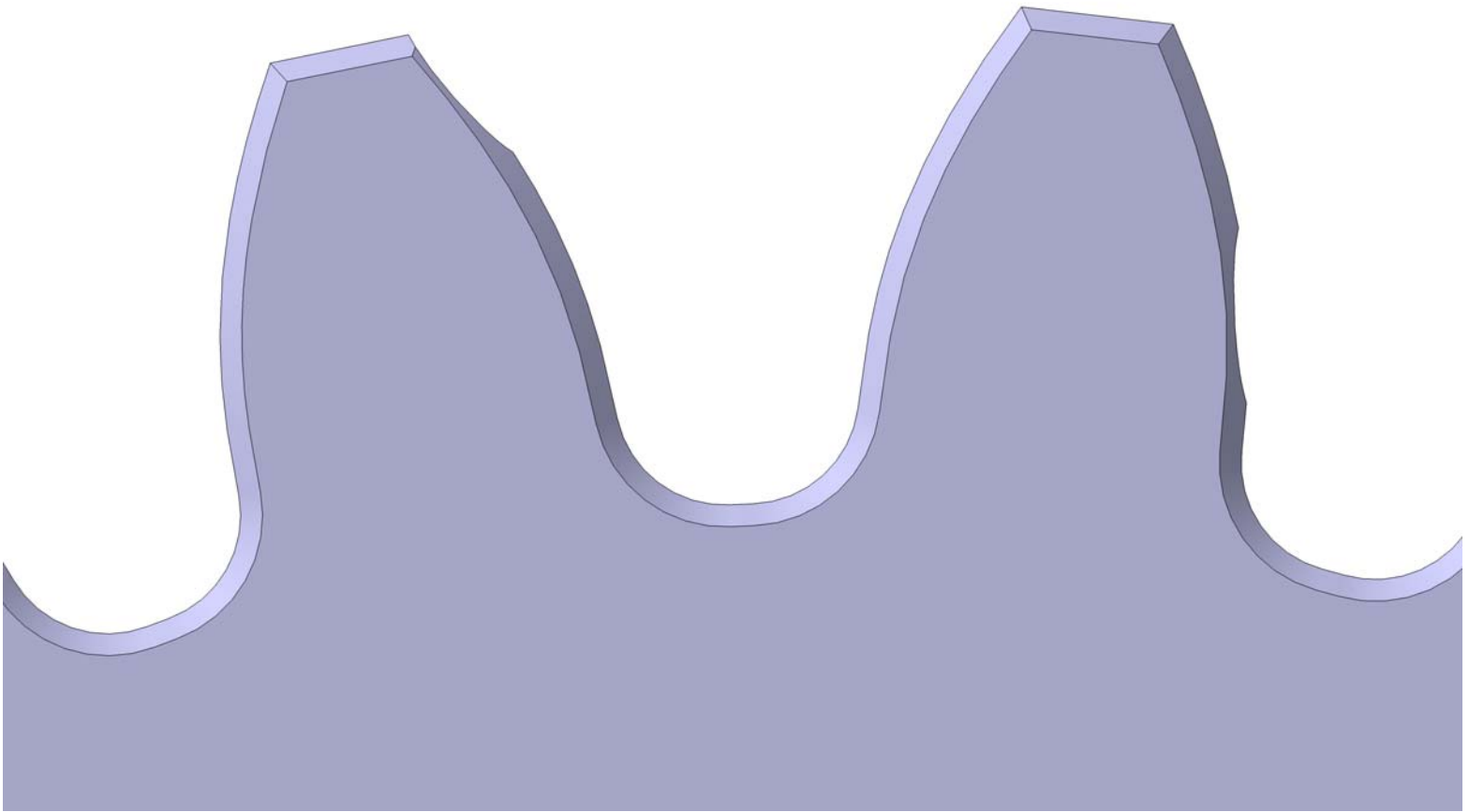


Figure 32.



Clearly visible in this view is the involute tooth profile affected by the wear

Figure 33.



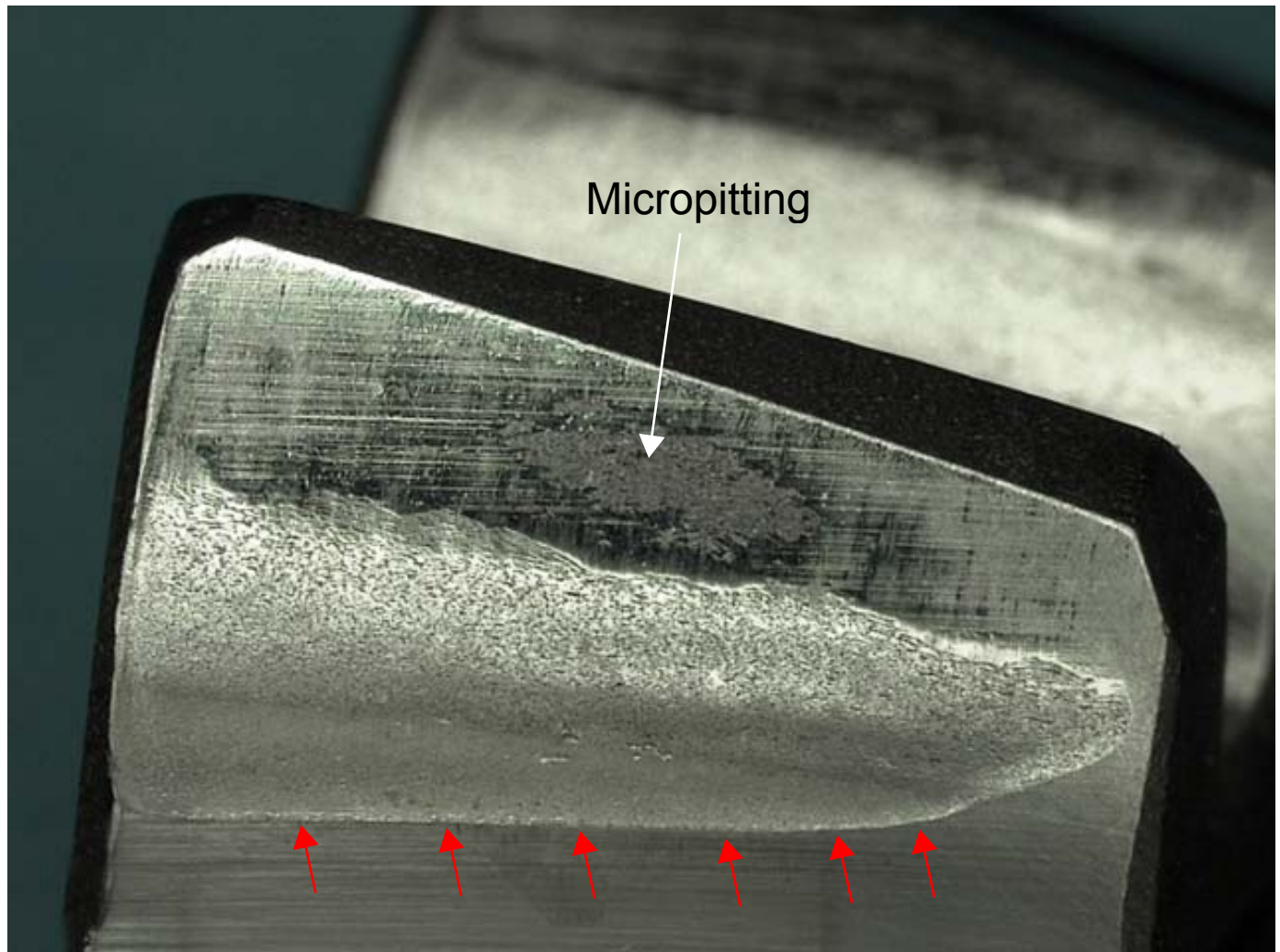
Heavy scuffing and wear; significant amount of material is removed from the tooth surface.

Figure 34.



Medium scuffing and wear. Grind lines are worn away.

Figure 35.



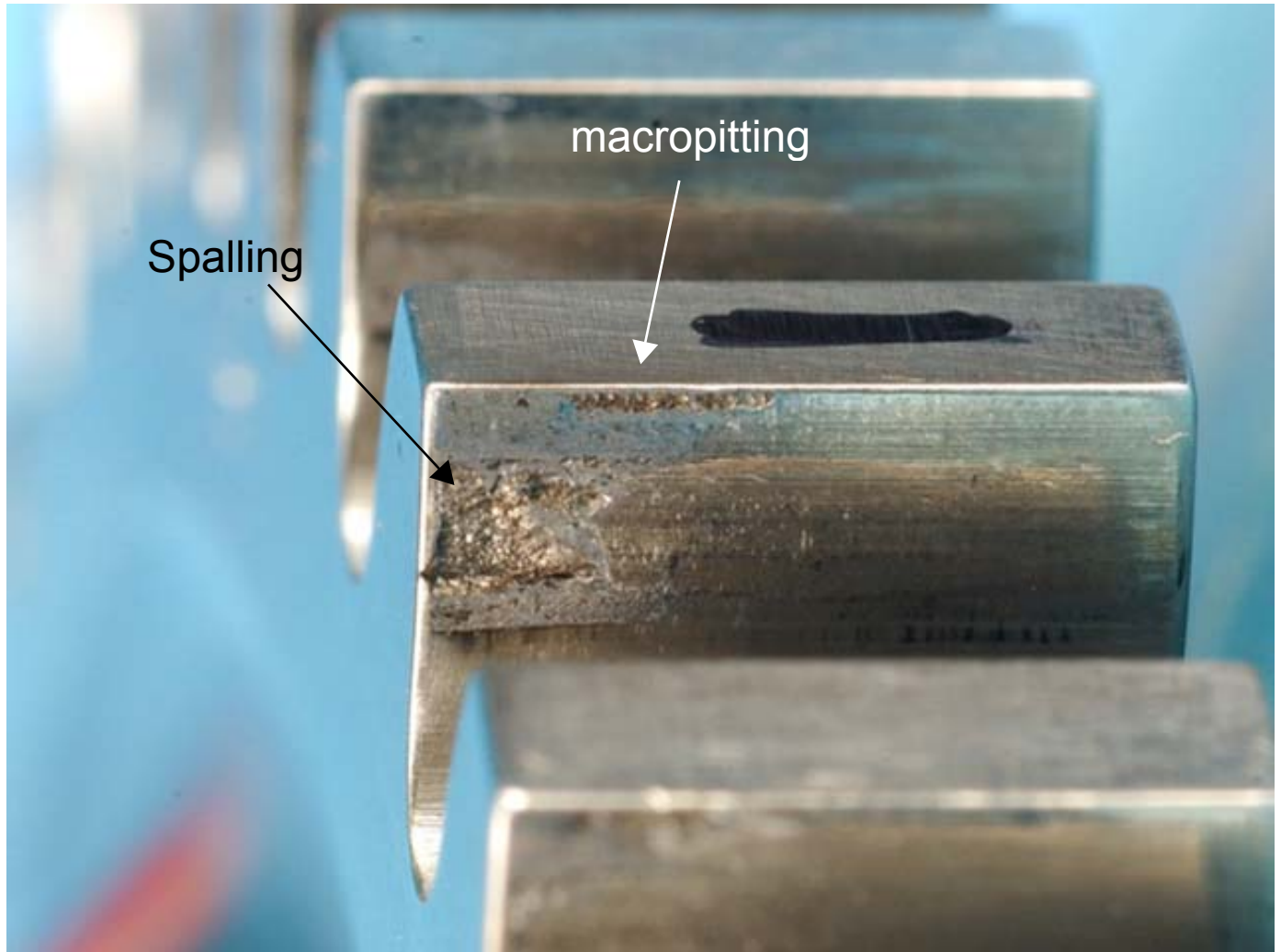
Light micropitting and heavy pitting and wear. Tooth profile is significantly affected. Clearly visible is a step between the worn section of the tooth and the unaffected area (red arrows).

Figure 36.



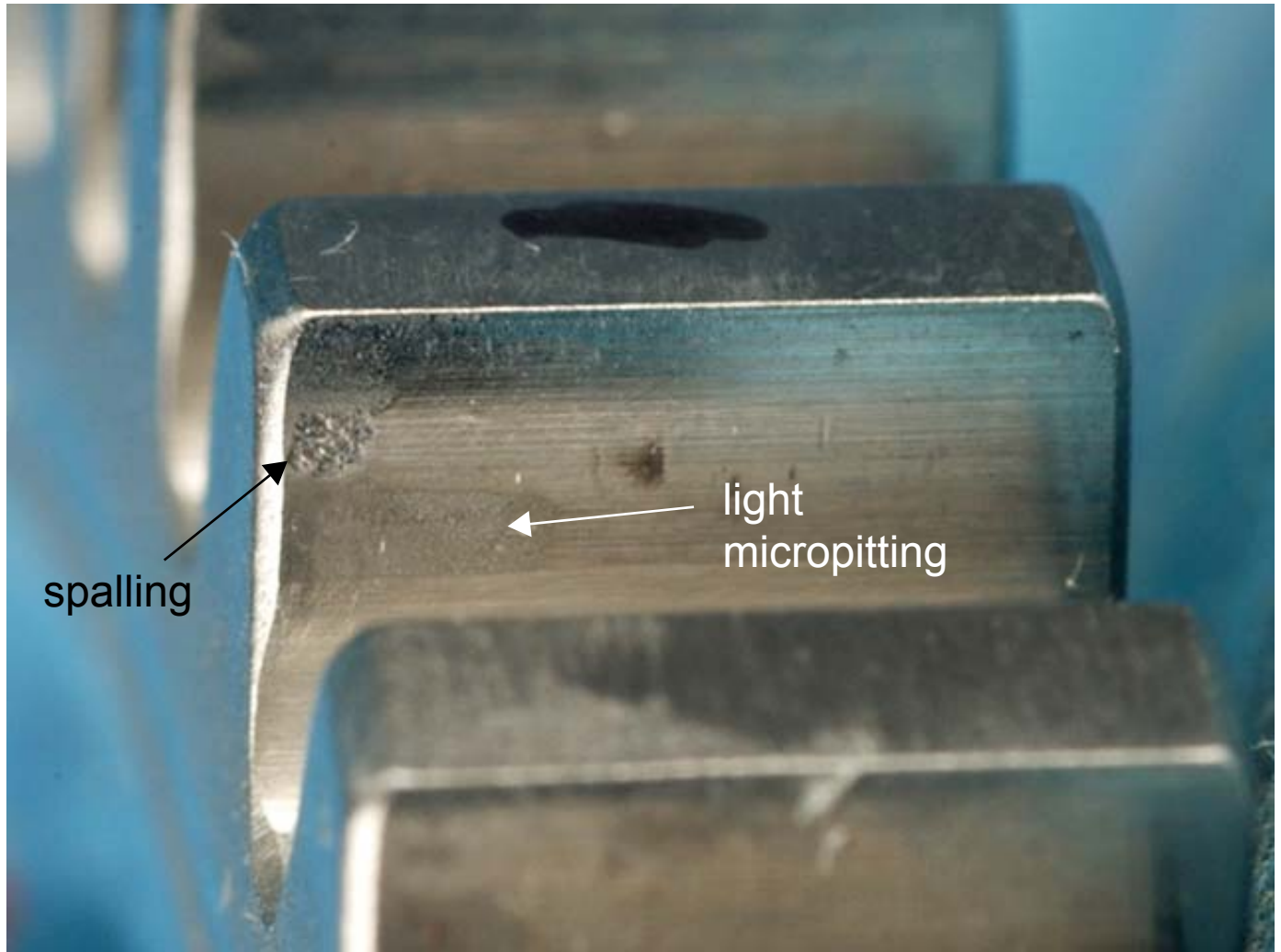
Heavy micropitting, macropitting and initial spalling.
Tooth profile affected by wear.

Figure 37.



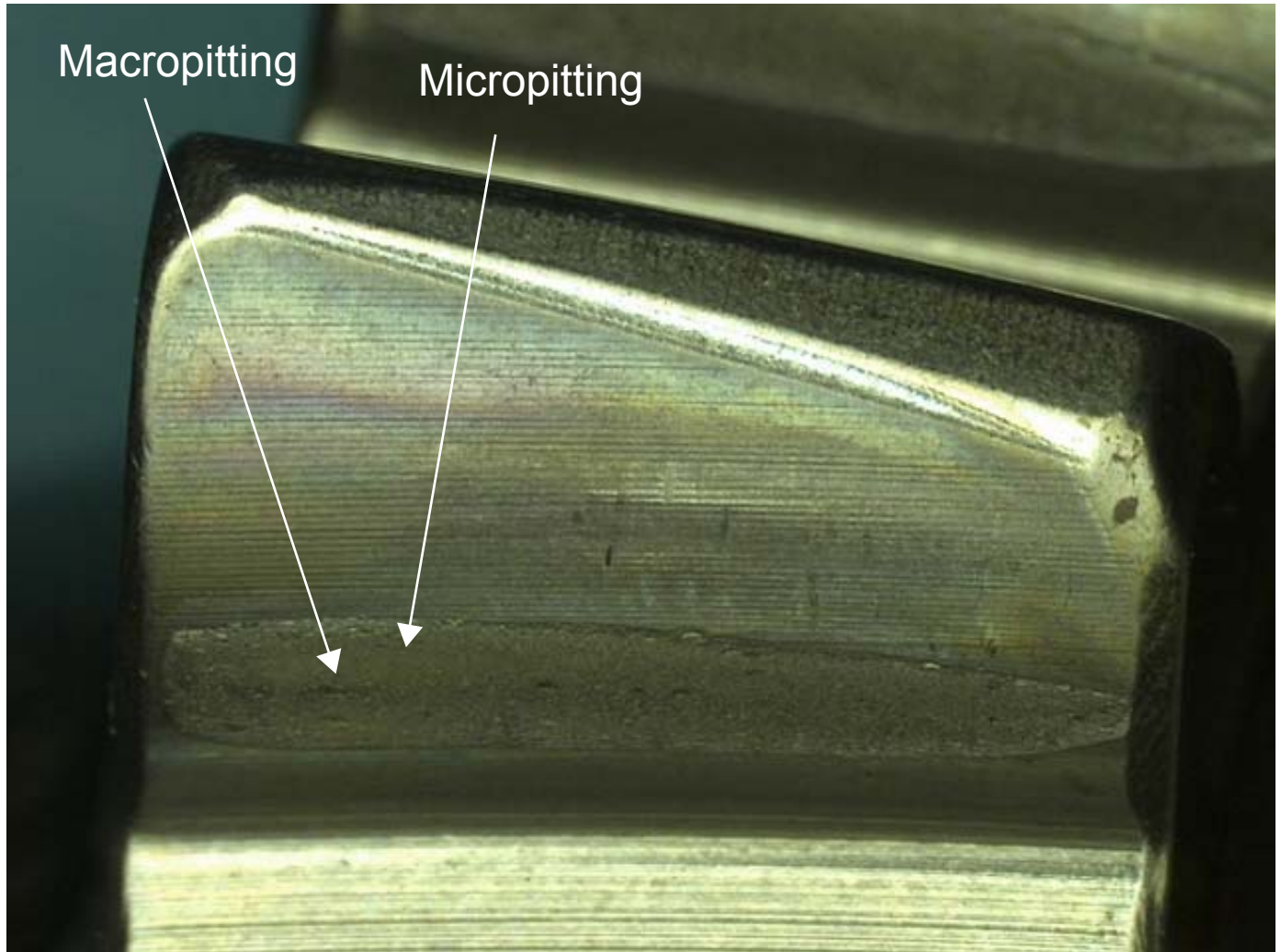
Spalling and macropitting.

Figure 38.



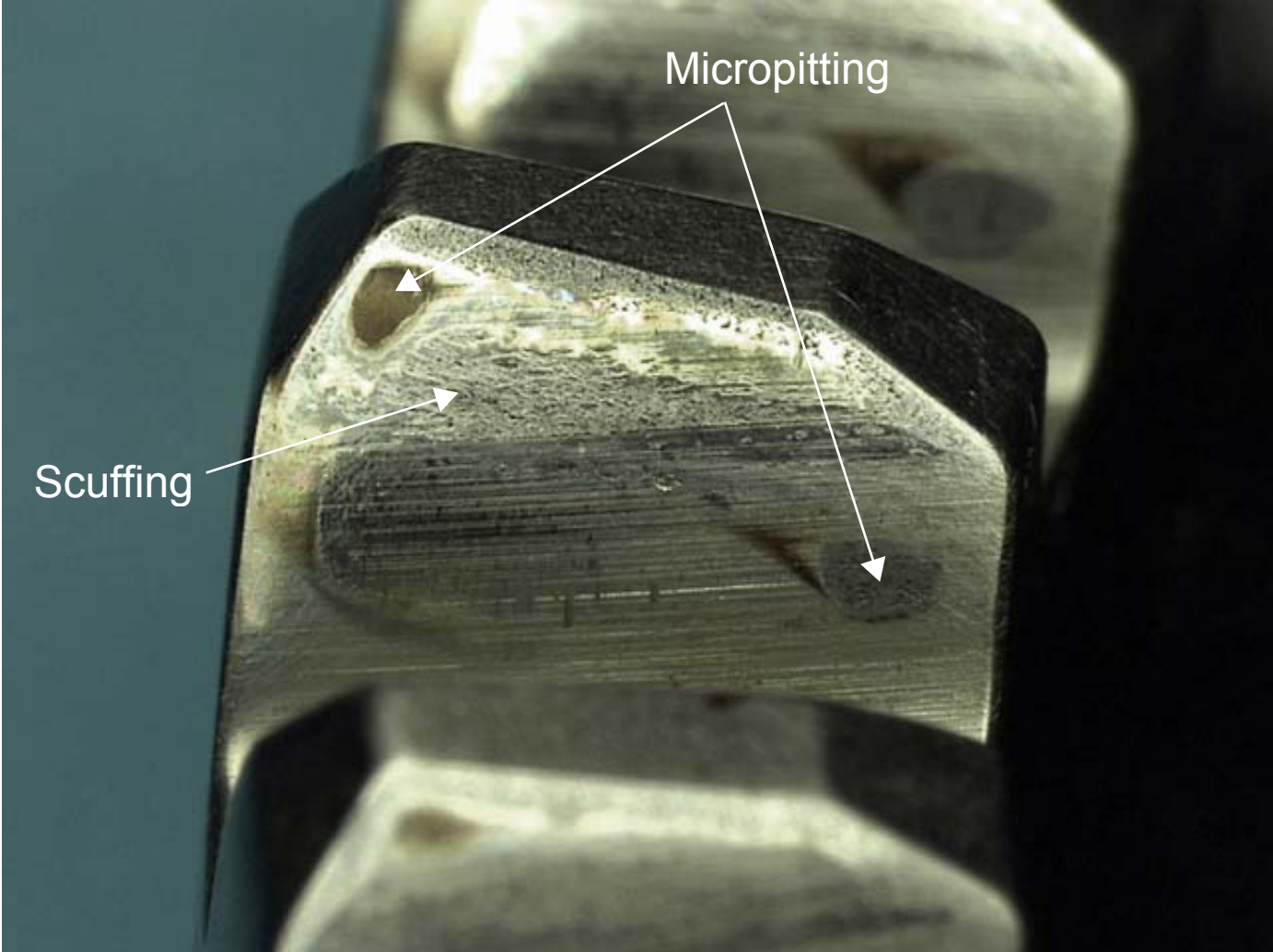
Initial spalling and light micropitting.

Figure 39.



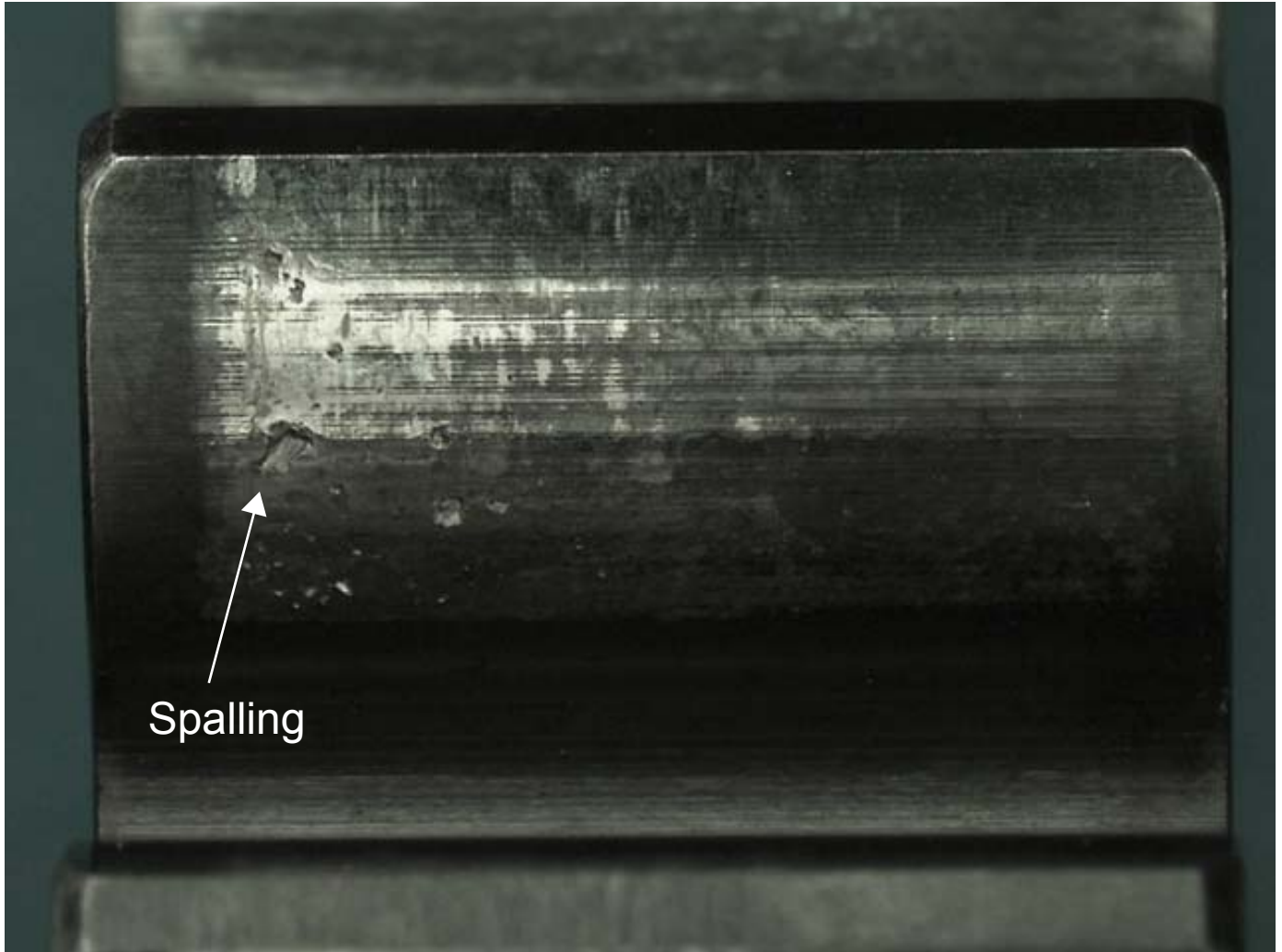
Medium micropitting and initial macropitting below pitch line of the tooth

Figure 40.



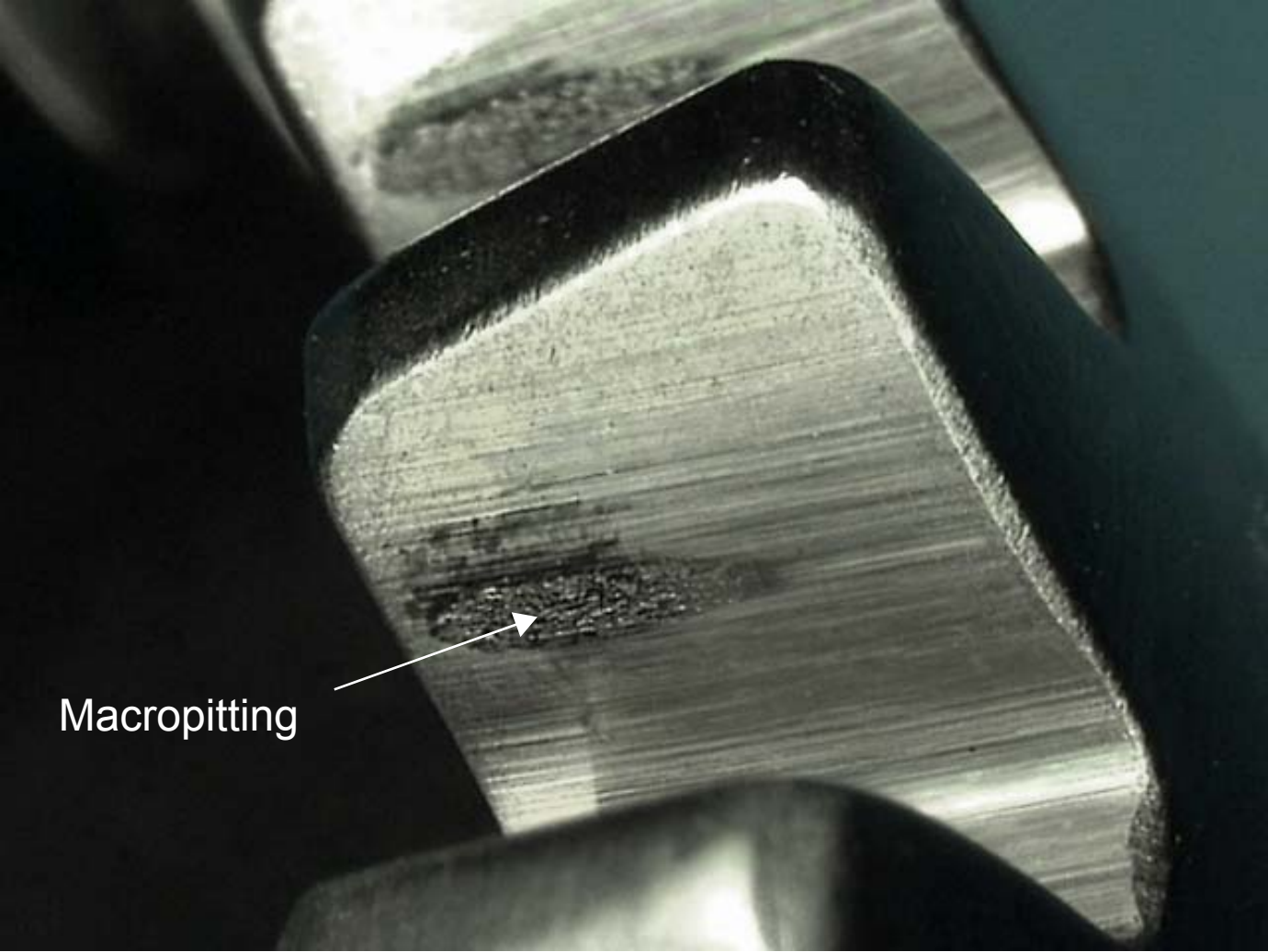
Medium macropitting and micropitting in high contact areas. Scuffing visible in the addendum of the tooth.

Figure 41.



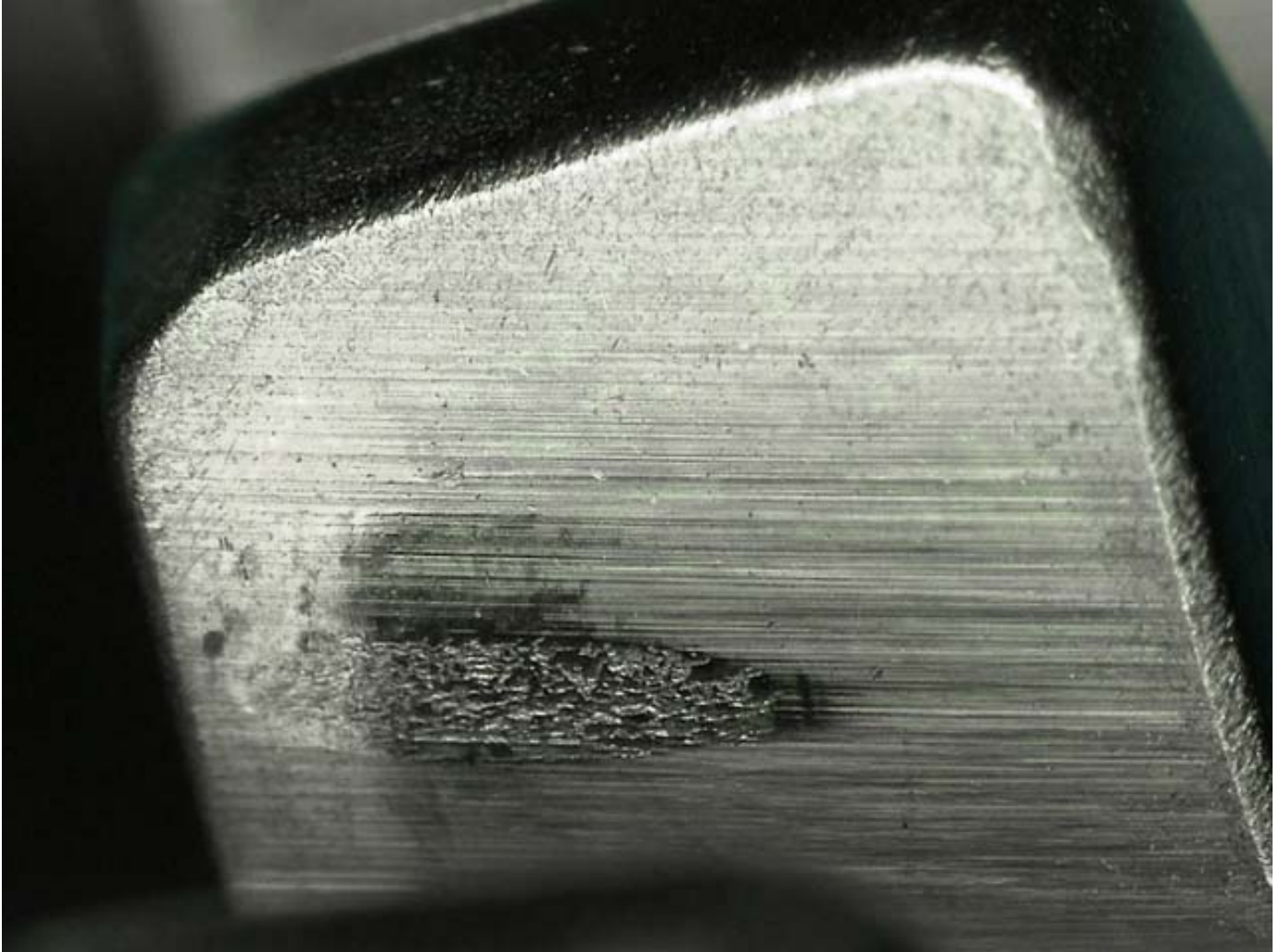
Localized spalling due to unevenly distributed tooth loads.

Figure 42.



Medium macropitting in the tooth contact area.

Figure 43.



Close up picture of medium macropitting in the tooth contact area.