



# Extended Wear Trial

## Auger Flighting: Chrome Plated vs. Raw Material



**PURPOSE:** To determine the protective benefits of chrome plated vs raw material (non-plated) flighting.

**METHOD:** Two strips of auger flighting, one chrome plated and the other non chrome plated were mounted vertically side-by-side into a motorized test apparatus and then immersed into a volume of water-dampened silica sand. Both augers rotated in the silica sand for a period of 2,042 hours. At various time intervals the motors were stopped to allow for measurements of the thickness of the leading edge for each strip of flighting.

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### RESULTS:

The unplated flighting did not show any significant reduction in thickness until about 500 hours of operation. After 500 hours the unplated flighting began to experience a rapid reduction in its material thickness in comparison to the chrome plated flighting which had not experienced any loss of material thickness. The point of rapid reduction in thickness of the non plated flighting is potentially due to the wearing through a work-hardened surface.

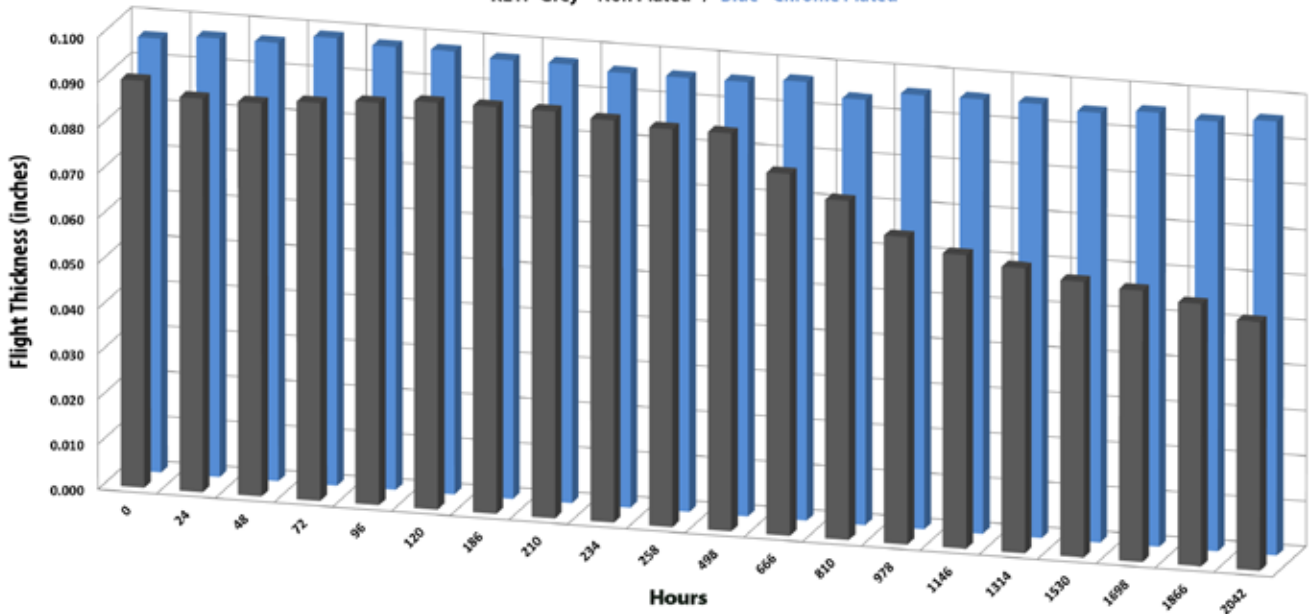
After 2,042 hours of operation, the chrome plated flighting did not indicate any significant reduction in thickness. At this point in the trial, the chrome layer had worn off the 1st revolution of the flighting. It can be assumed since the chrome plating had finally worn off the now exposed base material would begin to experience similar wear as the non-plated flighting had experienced.

**CONCLUSION:** Chrome plating on auger flighting provides extended wear benefits by extending the useful operating life of the auger.

### TRIAL DATA:

#### Auger Flighting: Chrome Plated vs. Non Plated

Material Thickness (inches) over Time (hours)  
Measurement Location: Leading Edge - 1st Revolution  
KEY: Grey - Non Plated / Blue - Chrome Plated



| Hours         | 0     | 24    | 48    | 72    | 96    | 120   | 186   | 210   | 234   | 258   | 498   | 666   | 810   | 978   | 1146  | 1314  | 1530  | 1698  | 1866  | 2042  |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Non Plated    | 0.090 | 0.087 | 0.087 | 0.088 | 0.089 | 0.090 | 0.090 | 0.090 | 0.089 | 0.088 | 0.088 | 0.080 | 0.075 | 0.068 | 0.065 | 0.063 | 0.061 | 0.060 | 0.058 | 0.055 |
| Chrome Plated | 0.096 | 0.097 | 0.097 | 0.099 | 0.098 | 0.098 | 0.097 | 0.097 | 0.096 | 0.096 | 0.096 | 0.097 | 0.094 | 0.096 | 0.096 | 0.096 | 0.095 | 0.096 | 0.095 | 0.096 |

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