CA-ROD Abrasive Grains

Rod-shaped ceramic grains for maximum stock removal

Premium-Schleifwerkzeuge seit 1919
www.tyrolit.com

Case Study:
CA-ROD Abrasive Grains

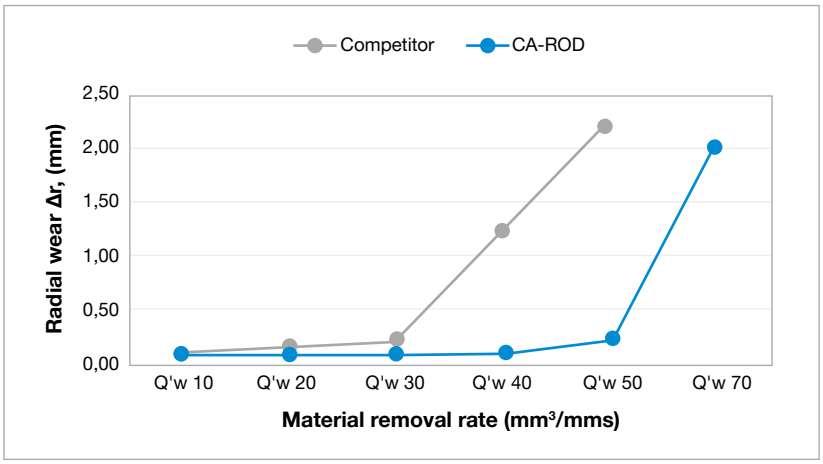
CA-ROD is a rod-shaped ceramic alumina abrasive grain with a similar chemical composition as BCA. The special production process allows for shaping abrasive grains with a very high aspect ratio which helps to create an open structure with high porosity.

Test 1:
CA-ROD & well-established ceramic rod tested on a profile surface grinding machine. Wheels produced at a low firing temperature.

- Wheel dimensions 400 × 20 × 203,2 mm
- Diameter of the rods around 200 µm (corresponds to CA-ROD T80)
- Creep feed grinding process
- Firing temperature between 900 - 1000°C
- Nickel based alloy workpiece

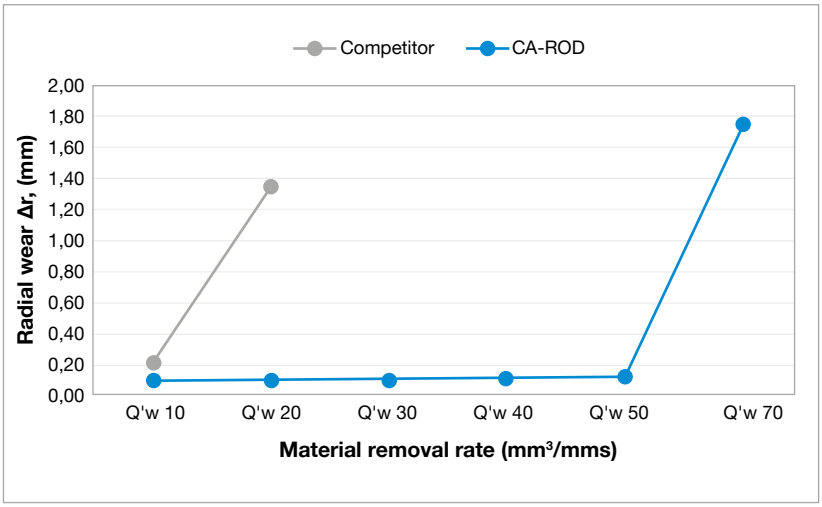
The material removal rate (Q'w) was measured and plotted against the observed radial grinding wheel wear:

Rod-shaped ceramic grains for high stock removal



Wheels produced with CA-ROD can efficiently be used up to Q'w = 50 whereas high wear of wheels produced with the competitive grain started considerably earlier.

Test 2:
CA ROD & well established ceramic rod tested on a profile surface grinding machine. Wheels produced at a higher temperature (1050 - 1150°C).



The wheels produced with CA ROD showed a very similar performance as in test 1, whereas wheels produced with the competitive ceramic grain started to show a high radial wear at low Q'w.

Conclusion

CA-ROD provides a significant benefit over existing rods in terms of material removal rate. CA-ROD also has a higher temperature stability. With less reactive bonds, BCA and CA-ROD abrasive grain can be used at temperatures up to 1250°C to produce vitrified bonded wheels without degrading the high performance. The microstructure and hardness remain stable.

Tyrolit - Schleifmittelwerke Swarovski AG & Co K.G.
Swarovskistraße 33 | 6130 Schwaz | Austria
Tel +43 5242 606-0 | Fax +43 5242 63398

Our **worldwide subsidiary companies** can be found on our website at **www.tyrolit.com**

Find us on social media
TYROLITgroup