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Dry Sliding Wear Behaviour of Ti3SiC2 and the Effect of TiC on Its

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Abstract : Wear behaviour of Ti3SiC2 coating in contact sliding under dry condition have been investigated on different pressures (0.1-0.8 MPa) at various speeds from 5 to 60 m/s. The ball-on-disc sliding-wear test was performed in ambient air with a relative humidity of 20%. An equation has been proposed to predict wear rates and describe sliding wear caused by Corundum ball on the studied material. The results show how the wear rate, measured by mass loss, varies in the range of (0.6 – 3.8 x E-6 mm3/Nm) with normal sliding distance under various test conditions; it increases with increasing load and rapidly with speed. The influence of TiC impurities on the wear behaviours was also investigated.

Keywords : ball-on-disc, dry-sliding, Ti3SiC2, wear
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