Numeric evaluation of reciprocating linear wear test ball on flat on a borided AISI H13 steel.

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Figure 1. Equipment used in the wear test (Courtesy of surface engineering laboratory of IPN).

Figure 2. Pre-process of numeric model; a) proposed geometry; b) border conditions; and c) mesh of the model SOLID 185.

Figure 3. Global wear rate for a dry wear test condition (Modified from Hernández, 2017).

Figure 4. Comparative between experimental wear volume and numeric wear volume (Ashraf et al, 2015).

Figure 5. Shear stress generated by the wear test.

Figure 6. Wear model of brittle material, in which wear particles are generated by propagation of preexistent crack under elastic sliding contact: (a) sliding contact under elastic contact; (b) application of tensile stress to crack tip; (c) propagation of crack; and (d) generation of wear particle. (Bhushan, 2000).