Friability TI (Toughness Index) and TTI (Thermal Toughness Index) are measures of the impact strength of the superabrasive grain and its ability to resist mechanical breakdown. TI and TTI are regarded as the best overall predictors of grinding performance when crystal strength is the primary variable in the grinding system.

The TI test is performed on a superabrasive at room temperature and the TTI is run at room temperature on a grain previously raised to an elevated temperature of 1050°C and allowed to cool down. TTI values are used to determine the crystal strength for vitrified or metal bonds and/or applications where the grinding temperature is high.