

# High strain rate

The high strain rate test methodology can be used for both cold bump pull and shear to predict future failures.

This is done by screening combinations of solder ball alloys and under bump metallization for various industry standard failure modes by identifying the presence of voids at the UBM interface that may cause failure later in the life of the device.

This test methodology energy is the main metric and is preferred as an alternative to force for two primary reasons:

1. Force has a tendency to increase with strain rate, so border line failures may not be identified.
2. The amount of energy that a solder ball can absorb decreases with the presence of voids and the percentage difference in energy between failure modes is considerably more apparent than force.

