DURABILITY ANALYSIS OF IMPACT LOADED PARTS

Problem Description

• Direct fastenings tools at Hilti are exposed to impact loads which lower the durability of such tools.

• One main task of simulation at Hilti is therefore durability analysis.

Objectives & Tasks

• Your task will be to test the fatigue solver of LS-Dyna, which is a transient FE- solver mainly used for crash analysis, for highly loaded components of direct fastening tools.

• Design and conduct fatigue tests.

• Calibrate LS-Dyna material cards (*Mat_Add_Fatigue).

• Compare and validate your simulation results with component tests.

Stress distribution in a cross- section of a direct fastening tool

Damage pattern of a tool component