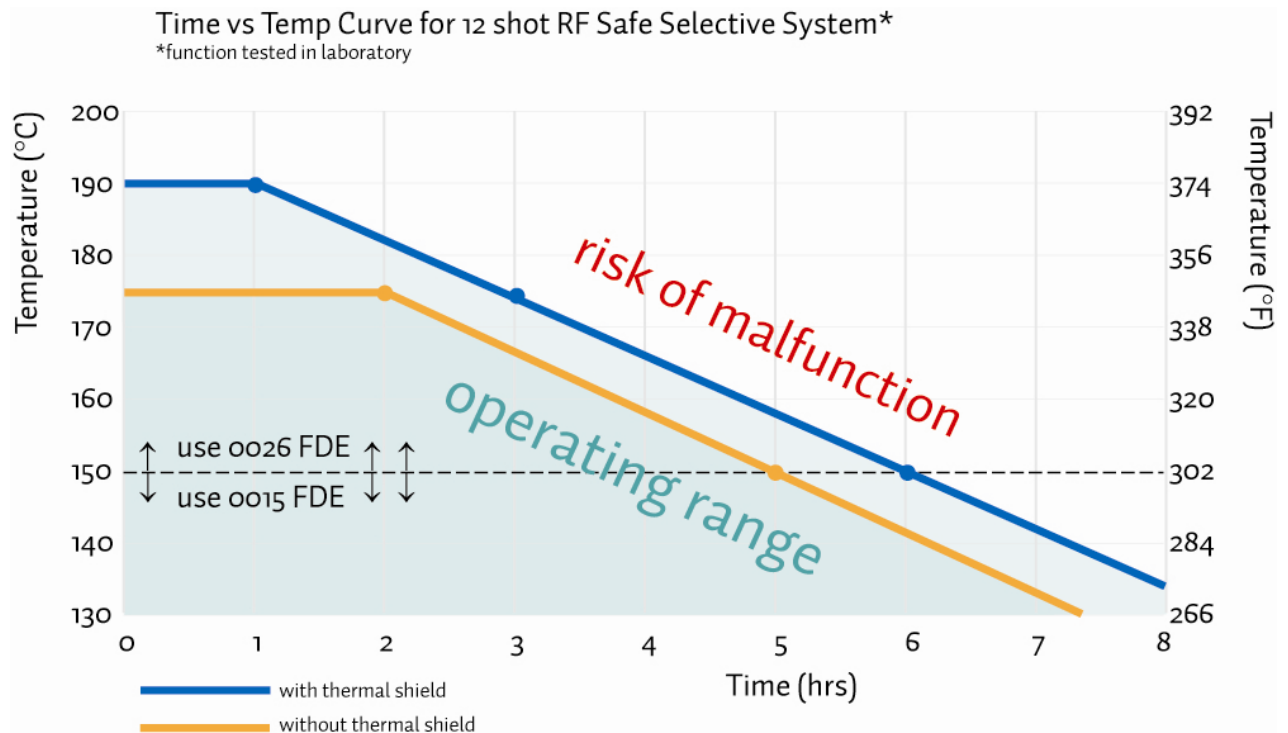


Time - Temperature Exposure values for the DYNAenergetics Selective Perforating System

In controlled laboratory conditions DYNAenergetics has requalified the RF-Safe Selective Perforating System with and without a thermal shield to confirm the temperature and corresponding time ratings. More information on the thermal shield is available on request.

Each temperature test was performed in a calibrated heating cabinet with a total of 12 Selectronic switches connected in series to the corresponding 0015 FDE Detonators (up to 150°C, 302°F) or 0026 FDE Detonators for temperature above 150°C (302°F). This simulates a gun string which can be selectively fired.

During each test the function of the Selectronic switch and RF-Safe electronic detonator was confirmed using the Multironic Firing Panel and software.



The temperature versus time plot displayed in the graph illustration, depicts the time for which the system was exposed to a stable temperature. This time does not include the run in hole time which is assumed at 1 hour per 100°C (148°F) and the additional temperature ramp up period ~100C/hr (~212°F/hr).

For safety reasons, it is essential to note for all running temperatures above 150°C (302°F) the 0026 FDE RF-Safe Detonator must be used.