

APPLICATION SHEET

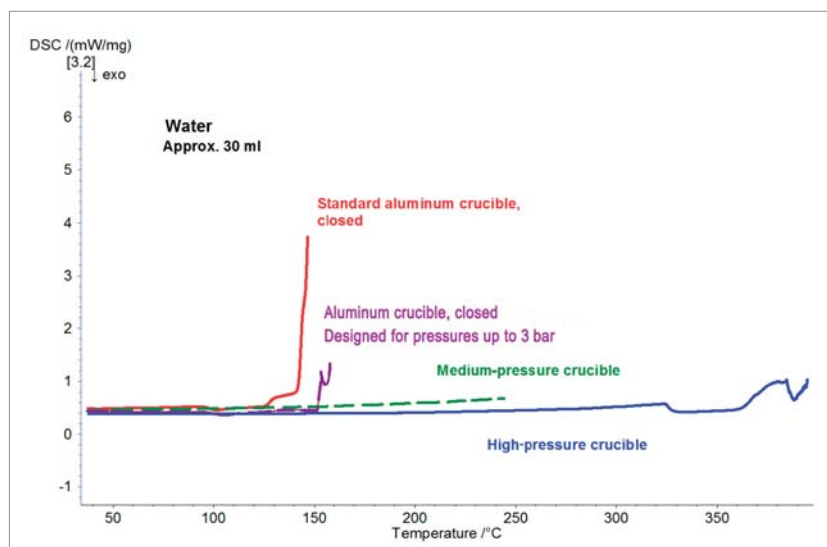
DSC Accessories – Medium- and High-Pressure Crucibles

Internal Pressure Capabilities of Sealed Al, Fine Steel and CrNi Steel Crucibles

A material's potential reaction and/or type of investigation being conducted (e.g., denaturation of starch, curing of phenolic resin), may warrant the use of crucibles capable of certain levels of internal pressure.



Medium-pressure crucible (right) and high-pressure crucible (left), see also *Accessories for Differential Scanning Calorimeters and Thermobalances*



Comparison of measurements done in crucibles capable of withstanding various levels of internal pressure, measured with the DSC 204 **F1** Phoenix®

The plot shows four measurements on water, of approximately 30 μ l each, in different crucible types: Al standard, Al low-pressure (max. 3 bar), fine steel medium-pressure (max. 20 bar), and CrNi steel (max. 100 bar) autoclaves. It can be observed that the standard Al crucible starts to

leak at approximately 125°C, while the low-pressure Al an opens above 150°C when water is trapped inside. The medium-pressure crucibles (20 bar) withstand the inner pressure increase up to their maximum temperature. The high-pressure crucibles begin to leak around 400°C.