

The quality of your crimping varies depending on several criteria :

- the height of the vial neck
- the type of neck (DIN or HS)
- seal thickness (from 0.25 mm to 3.25 mm)
 - height of the cap
 - the force applied

Poor crimping can be indicated by :

- a bulging cap and a deformed seal preventing proper sampling
- a cap that turns on the vial; it is not perfectly pressed down onto the vial and the crimp is not hermetically sealed

For Headspace analyses in particular, vial sealing affects the reproducibility of the result. Certain autosamplers like the CTC use magnetic caps that require perfectly flat crimping, to allow the vial to be transported using a magnet.

PRACTICAL TIPS:

It is easy to recognize a non-compliant crimp from the following points :

- the crimp cap appears convex
- the side of the cap is deformed
- the seal appears concave

Perfect crimp					
Vial cap surface flat	Edges of aluminium cap not fitting snug against the vial neck	Convex deformation of the crimp caps	Cap sides-deformed	Concave deformation of the seals	Cap edges rounded / Convex deformation of the crimp caps / Seal sticking up
Septum surface flat					
Even crimping of crimp cap side walls	Crimping too weak	Crimping too strong	Crimping too strong	Crimping too strong	Crimping too strong
Sides of the cap flat, undamaged					