



APPLICATION REPORT

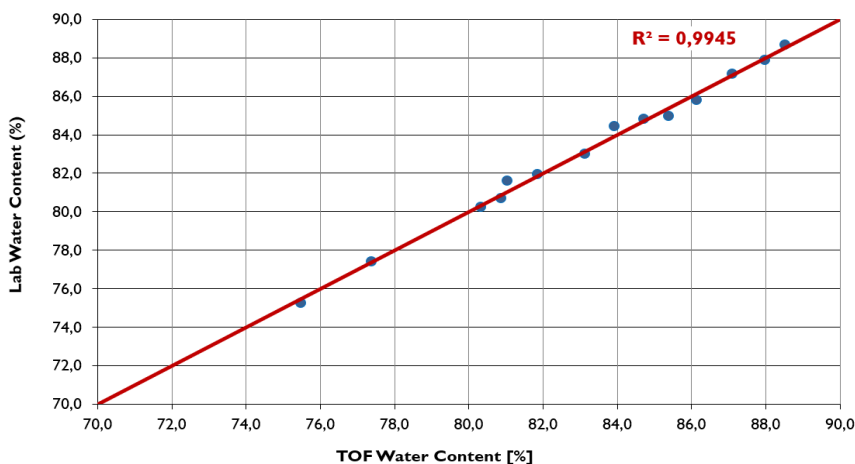
Concentration measurement in cosmetic cream

Tests were performed to assess the performance of the microwave μ -ICC 2.45 and TOF 1500 instruments for the application in cosmetic creams upon a request from a customer in the cosmetic industry.

The tests were conducted using a commercially available hand cream and was based on the response of the instruments due to the increase in the water content of the cream by its dilution with distilled water at ambient temperature.



Cream - TOF vs Lab Water Content (%)



TOF 1500

It showed excellent results in the measured range, with a correlation coefficient between the laboratory and raw signal of $R^2 = 0,9945$. The product to be measured should be homogeneous and must not contain suspended solids or bubbles that could affect the performance of this instrument.

μ ICC 2.45

The response of the instrument to the water variation was excellent, with a correlation coefficient of $R^2 = 0,9914$, proving the feasibility of using the instrument for this type of product.

The laboratory tests proved outstanding correlation between the raw signal and the water content in the cosmetic cream for both TOF and μ -ICC instruments over the range of 75 to 90% of water content (% m/m).

Cream - Microwave vs Lab Water Content (%)

