



Professor **Marc J. Assael**, FIChemE, CEng, CSci, PhD, DIC
Professor of Thermophysical Properties
Director of Laboratory of Thermophysical Properties & Environmental Processes

LTPEP

30 years contribution to science

October 10th, 2013

Mr Saffet CICEKDAGI

Hydromx Project – Akatlar Istanbul – TURKEY

Ref.: *Hydromx properties investigation*

Dear Mr Cicekdagi,


Following your request we have performed the following:

- 1) We did measure the thermal conductivity, the viscosity and the density of Hydromx over a temperature range -20 to 80 °C.
- 2) We did perform an experiment whereby the Hydromx heat transfer capability was examined in relation to water by placing the one side of two tubes (one with water and one with Hydromx) in 60 °C. We did observe that within 10 min, the other side of water reached 34 °C, while the other side of Hydromx reached 55 °C.

Although the comparison of the measurements themselves of the thermal conductivity and viscosity of water with Hydromx, do not justify this temperature difference, we do believe that this difference is attributed to the presence of nanoparticles in Hydromx. Nanoparticles, upon turbulence, provide an alternative enhanced way of heat transfer, that is much higher than that of water.

Sincerely yours,

Professor Marc J. Assael

 Information about the recent work carried out at the Laboratory of Transport Properties & Environmental Processes, including current publication lists and projects, can be obtained at : <http://transp.eng.auth.gr>
Information about the Faculty of Chemical Engineering can be obtained at: <http://www.cheng.auth.gr>