

### Lubricity, Dry Times, and Adhesiveness

Prepared by, Thomas McGuckin VP Research IPC

August 2013

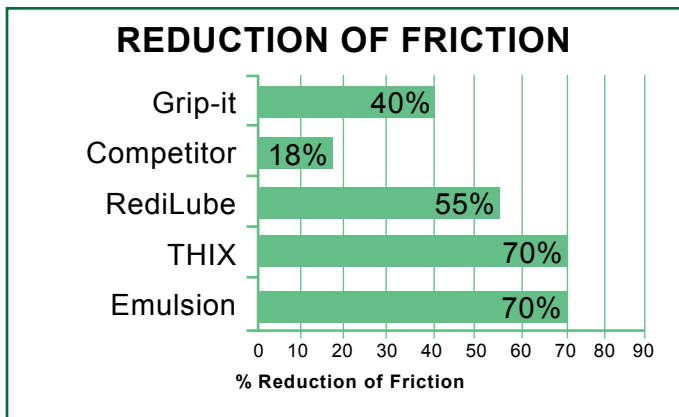


Figure 1. Reduction of Friction Chart

**Figure 1.** The % Reduction is the amount of friction that is reduced when assembling a lubricated hose compared to a non-lubricated hose.

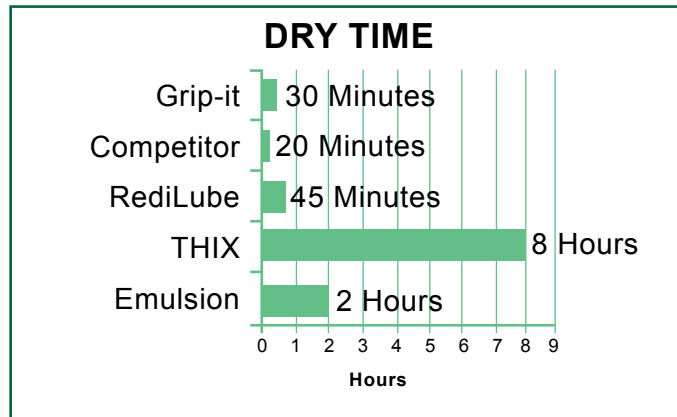


Figure 2. Dry Time Chart

**Figure 2.** The Dry Times were recorded when the pull-off force of a lubricated hose equaled the pull-off force of a non-lubricated hose.

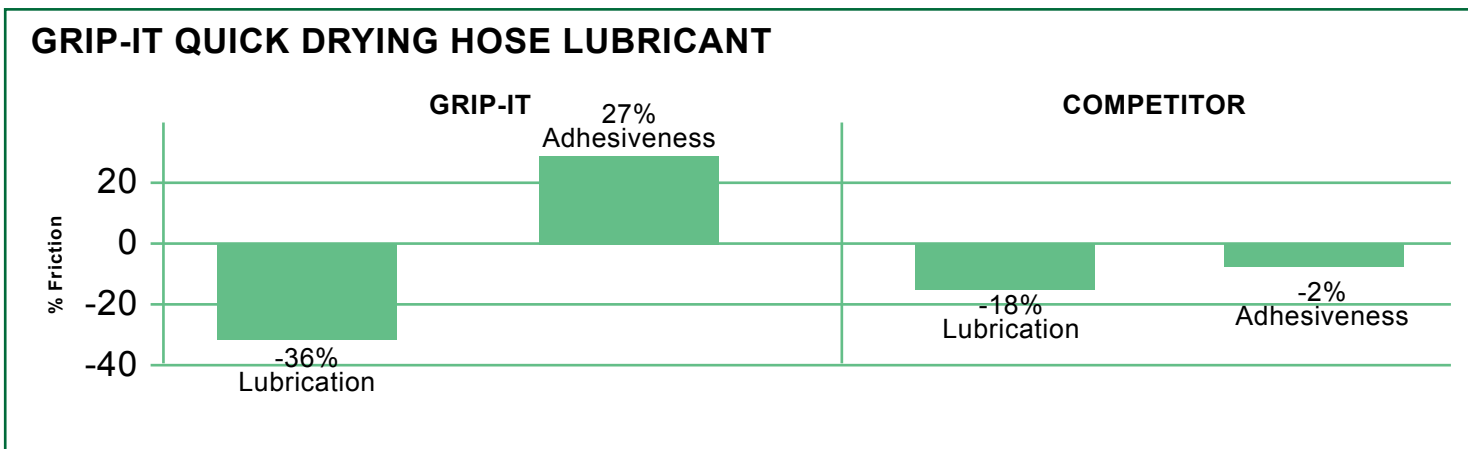


Figure 3. Grip-it vs Competitor Lubricity and Adhesive Chart

**Figure 3.** This chart displays the dual lubricity and adhesive properties of Grip-it. After applying Grip-it to the hose, the assembly friction is reduced by 36%. Once dry, the removal force was 27% higher when compared to using no lubricant.

#### Materials Used

5/8" ID Buna N Heater Hose

5/8" OD Copper Tube

Mecmesin BFG 500N Force Gauge

Notebooks: 200208-10

20113-98

While these results are unique to this application, the relevant trends of the lubricants are expected to be the same for all applications