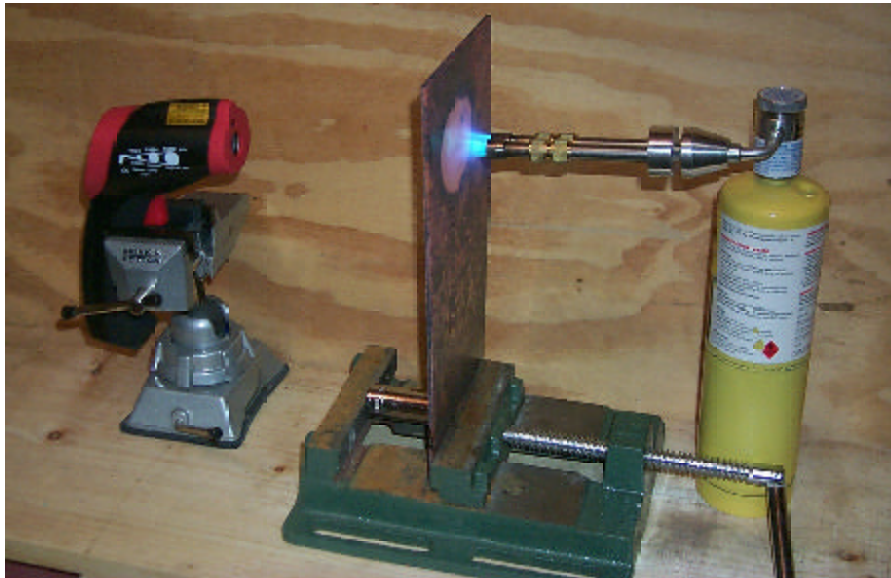


So, Who Has the Best Torches Now?!!!!

There are torch companies in the industry who give their new products very powerful trade names, giving the purchasing agent the impression that these torches are at the cutting edge of performance and there must be nothing better out there. One of these companies shows pretty, artistically drawn, pictures of flames on their web site stating why they think their torches are amazingly better all of a sudden. *The number #1 purchasing agent rule is "Don't Screw Up!"* In this report we will provide measurable facts that will show that CROSSTECH® PROFESSIONAL TORCHES™ are better than the competition.

We decided to quantify the performance of our CROSSTECH® PROFESSIONAL TORCHES™ and compare the results to the #1 and #2 torch brands in the industry for hand torches mounted to one pound MAPP® cylinders. These tests were done using common available materials and test equipment that anyone could purchase. We obtained 6"x12" copper plates in 3/16" and 1/8" thickness from MSC Industrial Supply. On eBay we purchased a CEM, Model 8829, Professional Higher Temperature InfraRed Thermometer, which had an operating temperature up to 1832°F, which is the temperature for phosphorous bronze brazing.

With all the hype about the #1 brand torches, we didn't know what to expect. We decided to make the tests and see how we compared to the plumbing industry "Goliaths." We initially tested their flame speeds and they were in the 0.5 to 1.5 inches of water range. For our testing, we used TM2100CLO torches and TM2000-357 torches, which had flame speeds of 1.75 inches of water. The test results are very interesting.



This photo shows the test setup we used. The TM2100CLO torch is heating one side of the copper plate and the CEM InfraRed Thermometer is measuring the temperature directly on the opposite side. The CEM is 6" away from the plate and has a 0.5" measurement circle on the plate. The CEM has a laser pointer so you know where you are measuring the temperature. We always search for the maximum temperature during these tests to be objective in the measurements. This is a very fair test because we are measuring the work piece temperature, and the test results will be very repeatable. We measured the temperature every 30 seconds. Every time we run a test, we cooled the plate in a bucket of water and let the plate stabilize at room temperature.

During this test we measured the initial and final weight of the MAPP® tanks. The #1 brand torch consumed 3.2 oz of fuel, and the TM2100CLO consumed 2.6 oz. Our calculations show that the #1 brand has a BTU rating of 28,133 BTU's per hour and the TM2100CLO has 22,858 BTUs per hour. The TM2100CLO TORCH provides 18.8% less BTU's than the #1 brand, *but the TM2100CLO heats the work piece faster and went to a higher temperature: 1050°F vs 982°F.* See chart #1 on the reverse side.

We compared our TM2000-357 CROSSTECH® 357™ SELF IGNITING PROFESSIONAL TORCH against the two prominent vendors of pistol grip self igniting torches. We used the same test procedure as stated above but with a thinner, 1/8" copper plate. Chart #2 shows that the TM2000-357 is 2.5 times faster than the #1 brand, and 3.6 times faster than the #2 brand for heating the work piece.

And now you know that CROSSTECH® PROFESSIONAL TORCHES™ are the "Best In Class"

WORK PIECE TEMPERATURE vs TIME

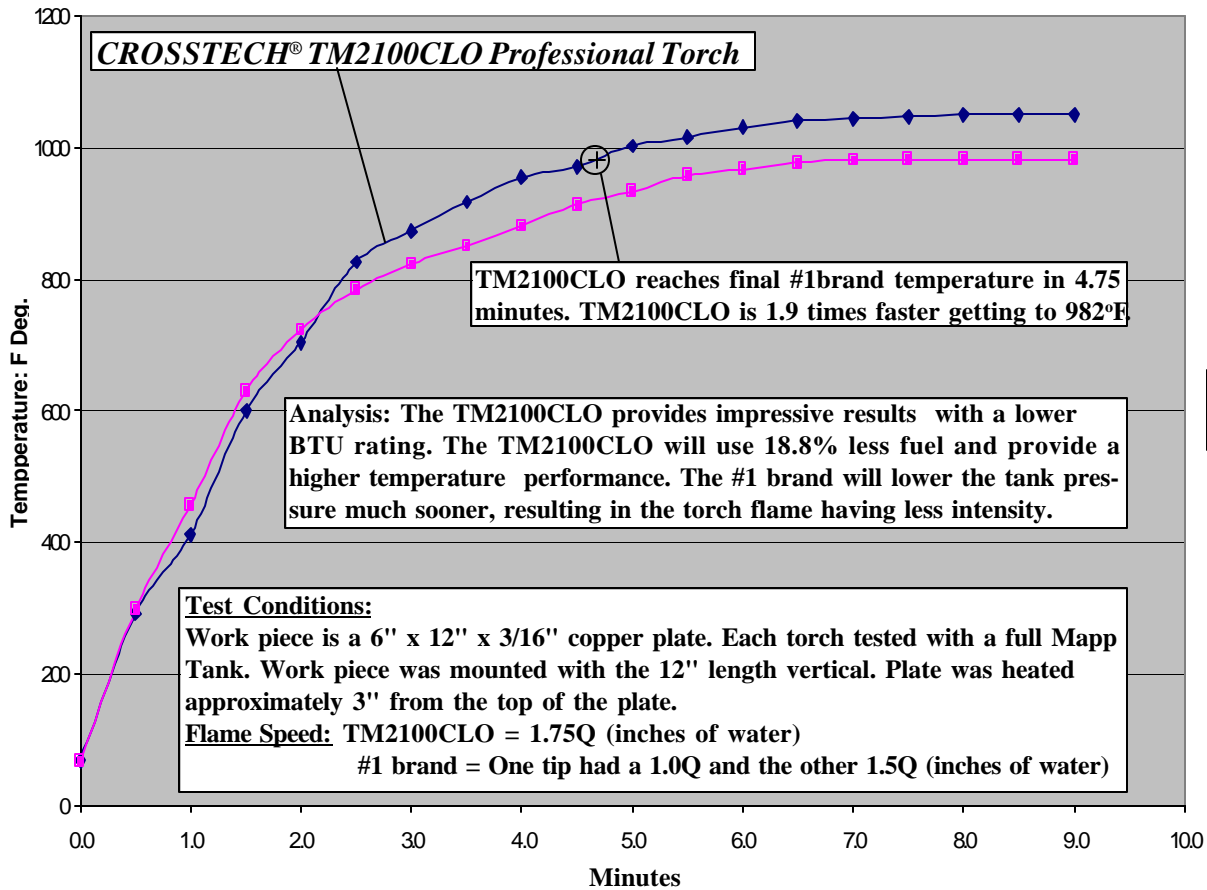


Chart #1

WORK PIECE TEMPERATURE vs TIME

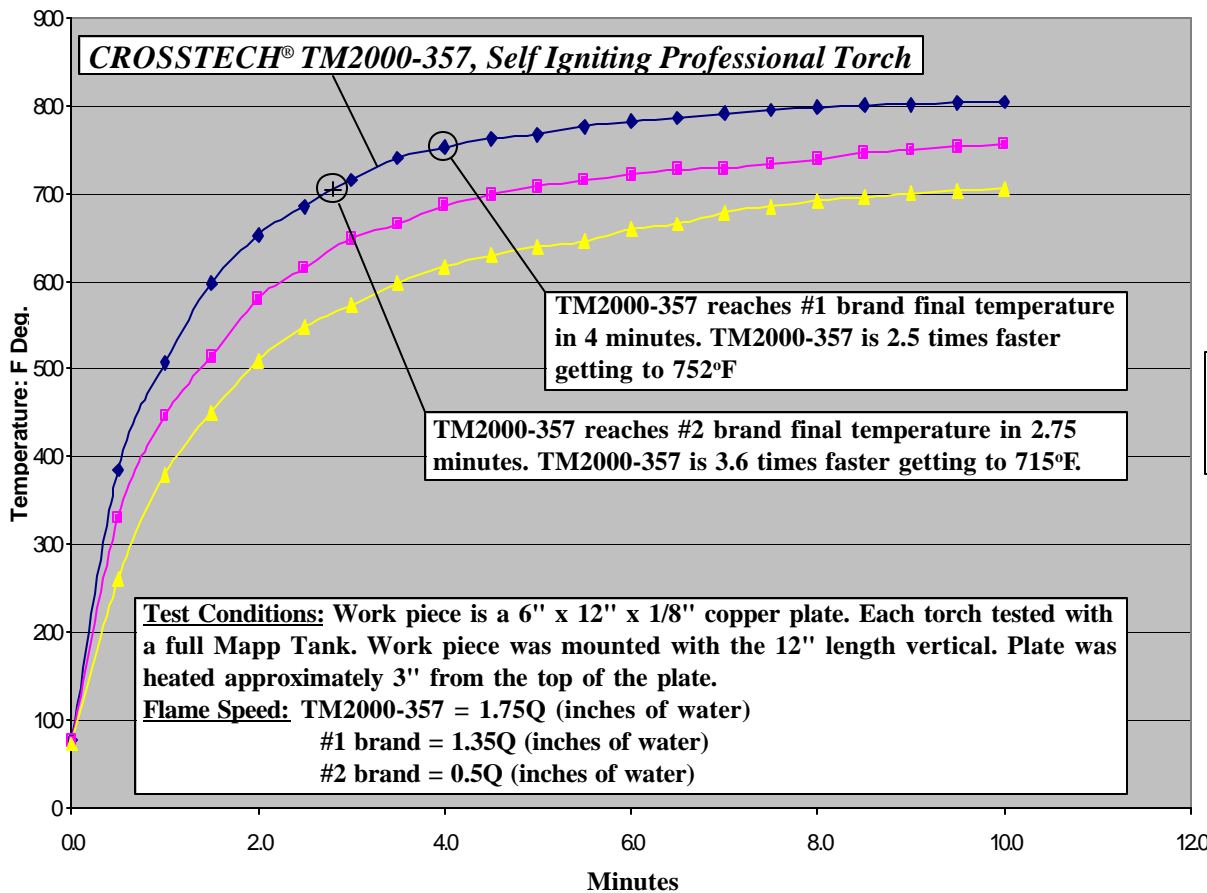


Chart #2