



## Application Report

### Power Boilers

A gas-fired power plant in southern California recently completed a boiler burner retrofit that was necessary to comply with new, tougher, emission laws. Because of the energy shortage in California minimizing downtime was a critical factor in the selection of refractories for the burner throats. The customer chose Thermbond® Formula Six-B because of the time saving benefits the product offered. The boiler was the second of three boilers to utilize Thermbond® technology in a burner retrofit.

A large, nationally recognized, refractory contractor lined ten burner throats with Formula Six-B. Metal forms were made up prior to the commencement of the job. The strategy was to cast multiple burners at once, pulling the forms after a few hours, and then casting the remaining burners. Four units of Formula Six-B were mixed at a time in a paddle mixer. The material was poured in from the top of the form using external vibration, attached to the form, to aid in the material flow. A total of 22 units of material were required for each burner throat and installation time was approximately 1 hour per throat.

After four hours the forms were removed, cleaned, coated, and repositioned for another pour. The cast throats looked excellent, were completely set, and ready to be fired in as soon as the remaining throats were cast. Depending on how much tuning the burners require on start up, the refractory could be brought up to operating temperature in as little as 6 hours. Thermbond® provided a tremendous value because the characteristics of the material allowed for fast material mixing and placement, rapid curing which allowed for early form removal, and the ability to be fired in as rapidly as the burners would allow. Reducing downtime translates into more valuable production time.

The customer continues to be impressed with the Thermbond® technology. The third and final boiler retrofit will also include Thermbond®.