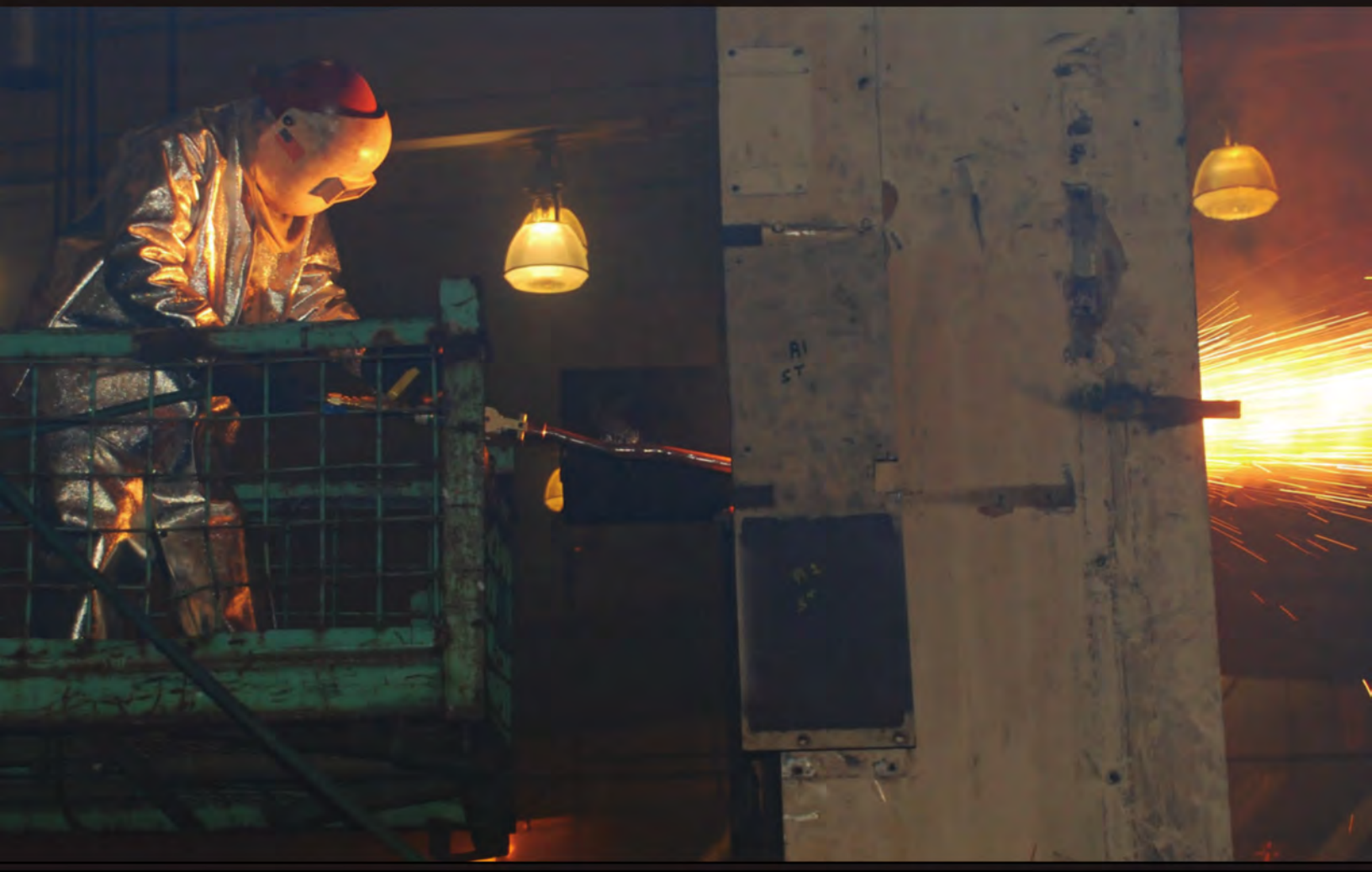
Oxylance Thermic Torch



Oxylance

OXYLANCE INC.
THERMIC CUTTING TORCHES (Burning Bars)

The Oxylance Thermic Cutting Torch is a self consuming exothermic cutting tool that can be used for a variety of applications in many different industries such as, construction, demolition, heavy equipment repair, mining, steel mills and foundries to name a few.

Thermic torches offer many advantages over standard oxy-fuel torches. Because the thermic torch is an exothermic reaction, it can burn in conditions that an oxy-fuel torch can not. Thermic torches can operate while being sprayed with water, they can be submerged under water or mud and will cut metals that are covered with rust, corrosion and even concrete.

There are many added benefits with thermic torches. They can be used to cut both ferrous and non ferrous metals. They will cut clad metals such as steel clad with stainless steel, and they can cut steel lined with refractory material.

Using only oxygen, thermic torches produce cutting temperatures of 7000 to 8000 degrees f, giving them the ability to rapidly cut very thick sections such as the 26" shaft pictured on the right. This cut took 20 minutes and 5 burning bars. The exothermic reaction cuts quickly without preheating or pre-cleaning.

Oxylance manufactures thermic torches in a variety of diameters so the operator can size the torch according to the material to be cut. For thin material such as exhaust ducts and boiler tubes in coal fired power plants, burning bars as small as .540" od can be used. For thick material like the 26" shaft (top photo), Oxylance manufactures 1.05" od burning bars.

Thermic torches can be used in steel mills and foundries for cleaning up spills, cutting up slag, removing solidified material from vessels, ladles and molds. They can also be used for removing risers from castings, cutting up skulls, repairing slag pots and scrap processing.

Thermic torches can be used for heavy equipment repairs such as, removing frozen pins from paper mill rolls, hinge pins from draw bridges and tunnel boring machines. Removing frozen pins is a common procedure for burning bars. When the pin is pierced, it is heated from the inside and the resulting hole allows room for the pin to shrink. For larger pins, the hole in the center can be enlarged or the pin can be split in half for removal.

EXOTHERMIC REACTION

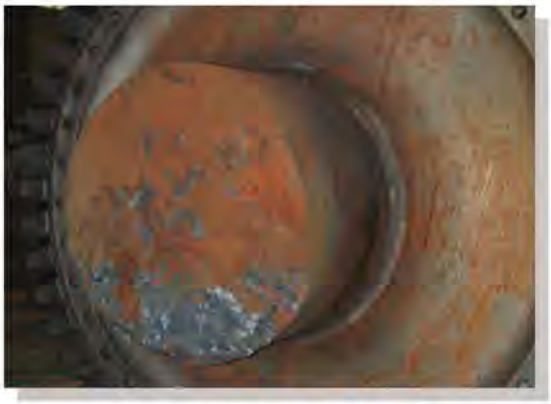
The exothermic reaction is a chemical reaction that combines a given volume of steel, heat, and pure oxygen under pressure. When steel is heated to its kindling temperature (1800 f) and pure oxygen is injected into the molten metal the exothermic reaction begins. The tip temperature of the thermic torch or burning bar is 7000 to 8000 degrees f. The cutting process is performed by rapid oxidation of the material being cut. Material that does not oxidize has to be cut by melting.

Because the cutting process is rapid oxidation, the more oxygen injected into the cut the faster the cut will progress. A .540" od thermic torch burns at the same temperature as a 1.05" od torch. However, the volume of oxygen being injected into the cut by the .540" od torch is 20 cubic feet per minute and the 1.05" od can inject up to 100 cubic feet of oxygen per minute. The higher the volume of oxygen, the thicker the material that can be cut and the faster it will cut.

Thermic Torch (Burning Bar) Sizes

.540" (13.7mm)	.840" (21.2 mm) (See back of brochure for performance)
.625" (15.8 mm)	.922" (23.4 mm)
.675" (17.1 mm)	1.05" (26.7 mm)

.540", .625" and .675" are available in 10'6" and 5'3" lengths



26 inch diameter steam turbine shaft

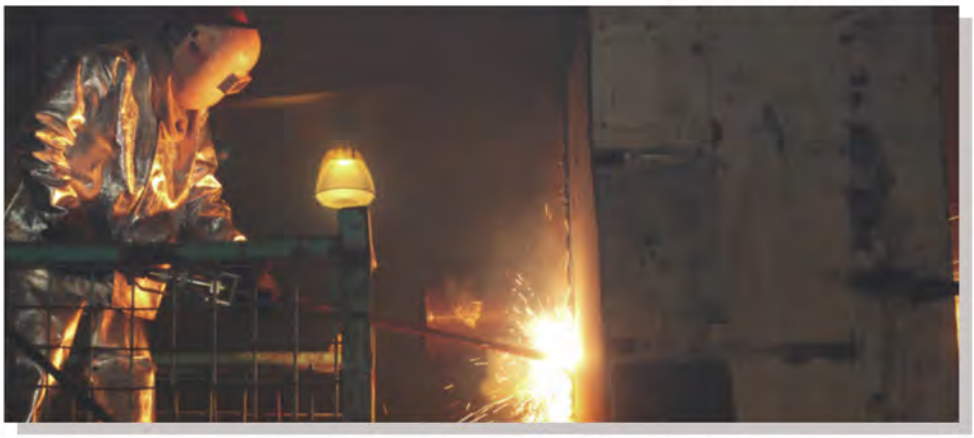
Cutting up slag in a steel mill

Scrap Processing

Demolition of 450 ton injection molding machine

APPLICATIONS

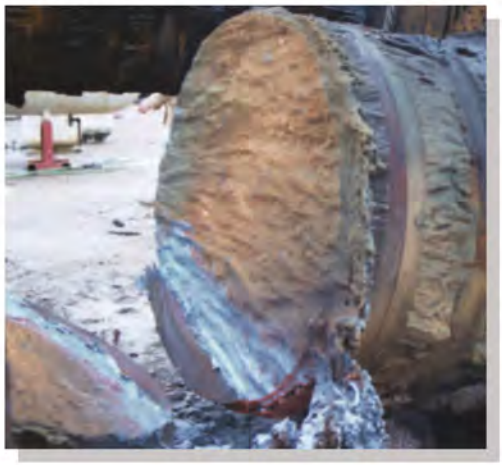
CUTTING



Demolition of Injection Mold Machine 450 tons of steel ranging from 4 to 26 inch thick.

Complete demolition of Nuclear Power Plant
Cutting steam turbine shaft 26 inches thick.

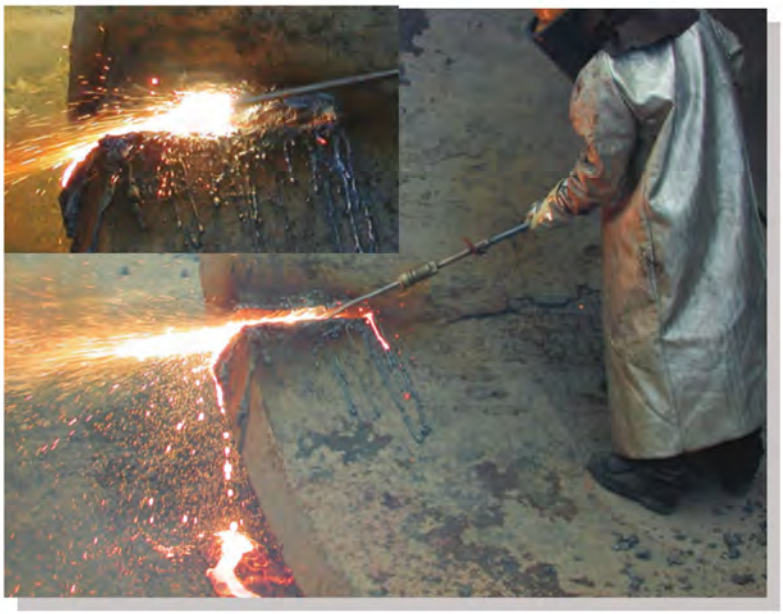
Processing Scrap



44” Shaft

GOUGING

Repairing Slag Pots in steel mill by using burning bars to gouge cracks in preparation for re-welding.



PIERCING

Removing frozen pins from heavy equipment. Photo;
Removing pin from tunnel boring machine by piercing.