



Matthews University



Elder Davis

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Cremation Terms and Slang

Cremators are specialty incinerators, and the terminology surrounding them comes from the incineration industry. In the next several issues we will familiarize you with these terms that are most useful in communicating with manufacturers and environmental professionals.

Air	All air supplied to the incineration equipment for combustion, cooling, ventilation, etc. <i>Standard air</i> is air at standard temperature and pressure, namely 68°F and 29.92 inches of mercury. a) <u>Air Jets</u> : Streams of high-velocity air issuing from nozzles in the incinerator enclosure, to provide turbulence. The air jets, depending on their location, may be used to provide excess, primary, secondary or overfire air. b) <u>Excess Air</u> : The air remaining after a fuel has been completely burned, or that air supplied in addition to the theoretical quantity. c) <u>Overfire Air</u> : Any air, controlled with respect to quantity and direction, supplied beyond the fuel bed, as through ports in the walls of the primary combustion chamber, for the purpose of completing combustion of combustible materials in the gases from the fuel bed, or to reduce operating temperatures within the incinerator. (Also referred to as <i>secondary air</i> .) d) <u>Primary Air</u> : Any air, controlled with respect to quantity and location, forced or induced, supplied through or adjacent to the fuel bed, for the purpose of promoting combustion of the combustible materials in the fuel bed. e) <u>Secondary Air</u> : Any air, controlled with respect to quantity and location, supplied beyond the fuel bed, as through ports in the walls or bridge wall of the primary combustion chamber (overfire air), or the secondary combustion chamber, for the purpose of completing combustion of the combustible materials in the gases from the fuel bed, or to reduce operating temperatures within the incinerator. f) <u>Theoretical Air</u> : The exact amount of air required to supply oxygen for complete combustion of a given quantity of a specific fuel. g) <u>Underfire Air</u> : Any air, controlled with respect to quantity and location, forced or induced, supplied beneath the grate that passes through the fuel bed.
Atomize	To break into tiny bits or mist.
Auxiliary Fuel	Fuel required to supply additional heat to maintain the combustion process.
Firing Equipment	Auxiliary fuel, for the purpose of attaining temperatures sufficiently high enough: (a) to dry and ignite the waste material, (b) to maintain ignition thereof, and (c) to effect complete combustion of combustible solids, vapors and gases.
Baffle	Any refractory construction intended to change direction of flow or velocity of the products of combustion.
Breeching or Flue	The connection between the incinerator and auxiliary equipment; between the incinerator stack or chimney; or between auxiliary equipment and stack or chimney.
Bridge Wall	A partition wall between chambers over which pass the products of combustion.
British Thermal Unit (BTU)	The quantity of heat required to raise one pound of water one degree Fahrenheit, usually abbreviated BTU or Btu.

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Burner	<p>A device for the introduction of a flame by delivering fuel and its combustion air at desired velocities and turbulence, to establish and maintain proper ignition and combustion of the fuel.</p> <p>a) Afterburner: A burner installed in the secondary combustion chamber, or in chambers separated from the incinerator proper. (Sometimes referred to as a <i>secondary burner</i>.)</p> <p>b) Primary Burner: A burner installed in the primary combustion chamber to dry out and ignite the material to be burned.</p> <p>c) Secondary Burner: A burner installed in the secondary combustion chamber to maintain temperature and complete the combustion process. (Sometimes referred to as an <i>afterburner</i>.)</p>
Burning Area	The horizontal projected area of grate, hearth, or combination thereof on which burning takes place.
Burning Rate	The amount of waste incinerated per unit time, usually expressed in pounds per hour.
Calcination	The process of reducing human remains to its basic elements in the form of bone fragments through heat and vaporization, less the element of flame due to controlled oxygen.
Capacity	The amount of waste incinerated, usually expressed in pounds per hour, with the characteristics or type of waste stipulated.
Checkerwork	A pattern of multiple openings in refractory through which the products of combustion pass to promote turbulent mixing of the gases.
Chimney, Stack or Flue	A vertical passage for conducting products of combustion to the atmosphere.
Combustion Cremation	Burning the interaction of fuel with oxygen accompanied by a well-defined flame-releasing heat. The process of reducing human remains to its basic elements in the form of bone fragments through flame, heat and vaporization.
Cremation Container	The case in which the human body is delivered to the crematory and in which it is cremated. General requirements are that it: (a) be composed of a suitable combustible material, (b) be rigid enough for handling ease, (c) assure protection of the health and safety of the operator, (d) provide proper covering for the remains and (e) meet moral codes for respect and dignity.
Cremator	The total mechanical unit for the cremation process. Inside it is lined — top, sides and bottom — with a heavy refractory tile or brick, with a layer of insulation between this inside surface and the outside protective housing or casing. They are generally made of high-grade steel plate and may include a variety of automatic controls. They normally use gas or oil for heating.
Crematory or Crematorium	The building that houses the cremation chamber. It can be a building that serves this one function or a multipurpose building that also contains the administrative offices, mortuary preparation only rooms or cemetery maintenance facilities.
Curtain Wall	A partition wall between chambers, which serves to deflect gases in a downward direction. (Sometimes referred to as a <i>drop arch</i> .)

Damper	<p>A manually or automatically controlled device to regulate draft or the rate of flow of air or combustion gases.</p> <p>a) Barometric Damper: A hinged or pivoted balanced blade placed to admit air to the breeching, flue connection or stack, automatically maintaining a constant draft in the incinerator.</p> <p>b) Butterfly Damper: A blade installed in a duct, flue connection, breeching or stack, which rotates on its axis.</p> <p>c) Guillotine Damper: An adjustable blade installed vertically in, and moving vertically across, a breeching or flue connection, usually counterbalanced for easy operation.</p> <p>d) Sliding Damper: An adjustable blade installed in, and moving horizontally across, a duct, breeching, flue connection or stack.</p>
Downpass	Chamber or gas passage placed between two chambers to carry the products of combustion in a downward direction.
Draft	<p>The pressure difference between the incinerator or any component part and the atmosphere, which causes a continuous flow of air and products of combustion through the gas passages of the incinerator to the atmosphere.</p> <p>a) Forced Draft: The pressure difference created by the action of a fan, blower or ejector, which supplies the primary combustion air above atmospheric pressure.</p> <p>b) Induced Draft: The pressure difference created by the action of a fan, blower or ejector, which is located between the incinerator and the stack, or at the stack exit.</p> <p>c) Natural Draft: The pressure difference created by stack or chimney due to its height, and the temperature difference between the flue gases and the atmosphere.</p>
Draft Controls	Dampers, linkages, etc., used to regulate air flow.
Drop Arch	Any vertical refractory wall supported by arch construction which serves to deflect gases in a downward direction. (Sometimes referred to as a <i>curtain wall</i>).
Dust Loading	The amount of fly ash or particulates carried in the products of combustion, usually expressed in grains per standard cubic foot, or in pounds per thousand pounds, of flue gas.
Effluent	The flue gas or products of combustion that reach the atmosphere from the burning process.
Emission	Combustion products such as smoke, soot, sulfur dioxide, etc.
Expansion or Settling Chamber	Any chamber designed to reduce the velocity of the products of combustion to promote the settling of fly ash from the gas stream.
Flame Scanner	Sensor which detects or monitors proper ignition based on the presence of ultraviolet rays from the flames.
Flue Connection Breeching	The connection between the incinerator and auxiliary equipment; between the incinerator and stack or chimney; or between auxiliary equipment and stack or chimney.
Flue Gas	All gases which leave the incinerator by way of the flue, including gaseous products of combustion, water vapor, excess air and nitrogen. (Sometimes referred to as the <i>products of combustion</i> .)
Fly Ash	Suspended ash particles, charred paper, dust, soot or other partially incinerated matter, carried in the products of combustion. (Most often referred to as <i>particulate matter</i> , or <i>particulates</i> .)
Fly Ash Collector	Auxiliary equipment designed to remove fly ash in dry form from the products of combustion.
Gas Washer or Scrubber	Equipment for removing particulates and objectionable materials from the products of combustion by means of sprays, wet baffles, etc.
Grate	Surface with suitable openings to support the fuel bed and permit passage of air through the burning fuel. It is usually located in the primary combustion chamber and is designed to permit removal of unburned residue, and may be horizontal or inclined, stationary or movable.

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