BRITISH STANDARD

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Glossary of

Industrial furnace terms

Co-operating organizations

The Solid Fuel Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:

Association of Consulting Engineers
British Cast Iron Research Association
BCURA Industrial Laboratories
British Coke Research Association
British Electrical and Allied Manufacturers' Association
British Ironfounders' Association*
British Mechanical Engineering Confederation Ltd.
British Steel Industry*
Chamber of Coal Traders
Chemical Industries Association
Coal Utilisation Council
Coke Oven Managers' Association
Council of Ironfoundry Associations
Domestic Solid Fuel Appliances Approval Council*
Electricity Council, the Central Electricity Generating Board and Area Boards in England and Wales
Gas Council*
Heating and Ventilating Contractors Association
Imperial Chemical Industries Limited
Institute of British Foundrymen*
Institute of Fuel
Institution of Gas Engineers*
Institution of Heating and Ventilating Engineers*
Institution of Mechanical Engineers*
Low Temperature Coal Distillers' Association of Great Britain Ltd.*
Ministry of Housing and Local Government
Ministry of Public Building and Works
Ministry of Technology
National Coal Board*
Society of British Gas Industries
Water-tube Boilermakers' Association*
Women's Advisory Council on Solid Fuel

The scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:

Association of Boiler Setters, Chimney and Furnace Contractors
Association of Shell Boilermakers
British Non-Ferrous Metals Research Association
Combustion Engineering Association
Society of Industrial Furnace Engineers

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Contents

Foreword

This standard makes reference to the following British Standards:

BS 499, *Welding terms and symbols.*

BS 499-1, *Welding, brazing and thermal cutting glossary.*

BS 2094, *Glossary of terms relating to iron and steel.*

BS 2094-1, *General metallurgical, heat treatment and testing terms.*

BS 3446, *Glossary of terms relating to the manufacture and use of refractory materials.*

BS 3447, *Glossary of terms used in the glass industry.*

Although this British Standard has been prepared under the authority of the Solid Fuel Industry Standards Committee and was envisaged as a further part of BS 1846[1)], the original draft was submitted by the Society of Furnace Builders (now the Society of Industrial Furnace Engineers) and, consequently, the terms and definitions are not limited to those relating only to solid fuel.

Section 1 of the glossary sets out to define "furnace" and includes a variety of similar or subordinate terms in common use. Arising from this introduction, it has been decided to exclude terms relating to food handling and to certain chemical or laboratory processes, mainly those characterized by the use of a comparatively low temperature.

Section 2 lists a number of processes which are carried out by means of a furnace or similar equipment and the remaining sections contain names and descriptions of furnaces used in particular industries, although not necessarily exclusively.

Where alternative terms are in use for the same item, any non-preferred term is given in small capital letters. Certain terms referring to equipment now falling into disuse are indicated in the same way. All the terms defined are listed alphabetically in the index and cross-indexed where appropriate.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 20, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

[1)] BS 1846, "*Glossary of terms relating to solid fuel burning equipment*".

No.	Term	Definition

Section 1. General

101	**arch**	A refractory structure in the form of an arch, generally for preheating refractory shapes used as replacements in glass furnaces; also employed to describe the roof or crown of many furnaces.
102	**crucible** POT	An externally fired container in which metal or other material is heated, generally to fusion. The contents may subsequently be baled or poured out, in the latter case possibly after removal from the heat source. The container may be circular, oval or rectangular in horizontal cross section.
103	**furnace**	A structure within which heat is generated to a controlled temperature by the combustion of fuel, or by the application of electrical or other energy, generally constructed or lined with refractory material and designed to suit the nature and dimensions of the material to be processed.
104	**grate**	A structure, generally in the form of bars, to support combustible material and to permit the incombustible residue (ash) to fall through the interstices.
105	**hearth**	Specifically, that part of the furnace on which fuel is supported during cumbustion, but extended to include any (horizontal) area where combustion processes or heat treatment are in progress.
106	**heater** STOVE	A structure or appliance acting as a source of heat.
107	**incinerator**	A refractory lined chamber and equipment connected to a chimney, designed to burn solid, liquid or gaseous wastes and to produce inoffensive gases and sterile residues containing little or no combustible material.
108	**kiln** ARCH	An alternative term for “furnace”, frequently employed in the ceramics, glass, refractories and other industries.
109	**lehr**	A tunnel shaped furnace through which glassware is passed continuously, for annealing, stress relieving or other manufacturing processes.
110	**muffle** INDIRECT HEATED OVEN	A furnace in which the working space and the charge therein are isolated from the heating medium and any combustion products.
111	**oven**	An alternative term for “furnace”, derived from the German; more properly, a heated chamber not normally used above about 500 °C.
112	**retort**	1. An externally heated refractory or metal distillation chamber. 2. A stationary or revolving chamber in which parts are heat treated in a prescribed atmosphere.

No.	Term	Definition

Section 2. Furnace processes

(See also BS 499-1, and BS 2094-1[a])

NOTE Definitions of terms for various types of electrical heating are under consideration internationally and will be incorporated in a British Standard glossary of electrical terms at a later date.

201	**annealing**	1. *Metal*. A heating and cooling process designed primarily to soften the material. 2. *Glass*. A heating and cooling process designed primarily to relieve stresses in the material.
202	**brazing**	The process of joining metal surfaces by flowing between them a metal of lower melting point but generally above 500 °C.
203	**bright annealing** BLACK BOX ANNEALING	Annealing a metal under atmospheric or other conditions in such a way that the original bright surface is retained.
204	**calcining**	A heating process designed to remove moisture and combustibles and to promote reactions in the solid state until only oxides remain.
205	**carburizing**	Increasing the carbon content of the surface of a metal by heating it in a carbon rich environment.
206	**close annealing** POT ANNEALING	Annealing a metal in a closed container so that surface oxidation is restricted.
207	**dielectric heating**	A method of heating by the losses occurring in an electrically insulating material in an alternating field.
208	**enamelling** COATING (metal) DECORATING; PAINTING (glass and ceramics)	The process of coating a material with a vitreous glaze.
209	**homogenizing**	A process of treatment at elevated temperature to reduce segregation.
210	**induction heating**	A method of heating by currents induced in an electrically conducting material by an alternating field.
211	**infra-red heating**	A method of heating by radiation from a low energy source.
212	**malleablizing**	The softening of white cast iron by annealing so as to produce a degree of ductility.
213	**normalizing** HOMOGENIZING	A heating and cooling process designed to achieve improved mechanical properties.
214	**patenting**	A heating and cooling process designed to facilitate subsequent working; associated with rod and wire production.
215	**power frequency heating** MAINS FREQUENCY HEATING LINE FREQUENCY HEATING	A method of heating using the mains supply of electricity.
216	**preheating**	A heating process designed to prepare material for subsequent treatment, generally at higher temperature.

[a] BS 499, "*Welding terms and symbols*", Part 1, "*Welding, brazing and thermal cutting glossary*", and BS 2094, "*Glossary of terms relating to iron and steel*", Part 1, "*General metallurgical, heat treatment and testing terms*".

No.	Term	Definition
217	**resistance heating** ELECTRODE HEATING	A method of heating by the losses occurring when a current is passed through a material of low electrical conductivity.
218	**sintering**	A heating process designed to promote surface reaction and agglomeration of particles without actual fusion.
219	**stress relieving**	A heating and cooling process designed to relieve internal stresses.

Section 3. Roasting, sintering and calcining

301	**bogie kiln** BOGIE FURNACE CAR BOTTOM KILN CAR TYPE KILN	A furnace with a mobile hearth (bogie) for the accommodation of the charge; can be used for continuous or intermittent processes.
302	**box kiln**	A furnace suitable for intermittent use, loaded from the top or one end.
303	**cascade furnace** EXFOLIATING FURNACE	A vertical furnace incorporating one or more deflectors, arranged for top charging.
304	**continuous kiln**	A kiln in which the full firing temperature is continuously maintained in one zone or another of the kiln.
305	**fluidized bed**	A bed of small particles through which a gaseous heating, cooling or reactant medium is passed in such a way that the bed behaves like a fluid and heat transfer or reaction is accelerated by the movement of the particles.
306	**intermittent kiln** BATCH KILN IN AND OUT KILN PERIODIC KILN (USA)	A furnace in which a complete batch of material is placed for treatment and removed before the next charge is inserted.
307	**lift-off cover furnace** BELL FURNACE HOOD FURNACE TOP HAT FURNACE	A base over which a cover is placed fcr heating the charge; separate bases are normally available so that the same cover can be used for several charges.
308	**lift-up hearth furnace** ELEVATOR HEARTH FURNACE	A furnace in which a mobile hearth can be inserted, lifted for heating the charge, brought down again and withdrawn for cooling.
309	**lime kiln**	A furnace specifically designed for the calcination of limestone to produce quicklime.
310	**multiple hearth furnace**	A furnace with several chambers which can be employed in series or in parallel.
311	**rod resistor furnace** GRAPHITE RESISTOR FURNACE	A furnace in which heat is conveyed to the charge by radiation from electrically heated resistances.
312	**rolling cover furnace**	A base over which a cover supported on wheels is rolled for heating the charge.
313	**rotary hearth kiln**	A furnace with a rotating hearth, sometimes tilted, for continuous operation.

No.	Term	Definition
314	**rotary kiln** CEMENT KILN	A refractory lined cylinder slightly inclined from the horizontal, continuously charged and rotated, heated from the lower (discharge) end.
315	**semi-muffle furnace**	A kiln or furnace where combustion takes place before the products of combustion enter the work chamber; designed to avoid flame impingement.
316	**shuttle furnace**	An intermittent bogie kiln, in which the movement is in and out.
317	**sinter strand furnace**	A continuous belt moving through or below a combustion chamber, on which pelletized or crushed material is baked or sintered.
318	**vertical lime kiln**	A continuously operating vertical shaft, charged with mixed limestone and solid fuel or separately fired by gaseous or liquid fuels.
319	**vertical shaft furnace** VERTICAL SLOT FURNACE SHAFT KILN HERRESHOF FURNACE	A refractory structure, usually of circular cross section, charged at the top and fired at the base.

Section 4. Melting and smelting of metals

(See also BS 2094-1[a])

401	**air furnace**	An early type of natural draught, coal fired melting furnace employed in iron foundries before the introduction of the cupola; now used in roll foundries with coal or other fuel. The term is also applied more generally at the present time to natural draught furnaces of any type.
402	**arc furnace**	A melting unit in which heat is produced by an electric arc between electrodes or between an electrode and the furnace charge itself.
403	**arc furnace, consumable electrode**	A melting unit in which a charge is melted under vacuum by an electric arc struck initially between the charge and the water cooled furnace body, the arc being subsequently maintained between the molten charge and a consumable electrode.
404	**arc furnace, direct**	An arc furnace in which the electric arc is produced between an electrode and the charge.
405	**arc furnace, indirect**	An are furnace in which the electric arc is formed between two electrodes.
406	**assay furnace**	A furnace for the heating of precious metals in containers (boats) to convert impurities to oxides.
407	**blast furnace**	A vertical, refractory lined structure incorporating within its height a hearth, bosh and stack; used for the reduction of ores to metal.
408	**cementation furnace**	An early coal fired furnace incorporating pots charged with alternate layers of wrought iron and charcoal. When the pots were sealed and raised to red heat, the bars absorbed carbon in accordance with the time and temperature of treatment.
409	**channel induction furnace** CORELESS INDUCTION FURNACE INDUCTION MELTING FURNACE	A furnace, of either a horizontal drum or a vertical body type, wherein the charge is melted by heat generated in a loop of molten metal located beneath or on the side of the furnace by a concentric induction coil.

[a] BS 2094, "*Glossary of terms relating to iron and steel*", Part 1, "*General metallurgical, heat treatment and testing terms*".

No.	Term	Definition
410	**converter**	A refractory lined vessel of the tilting type, generally pear shaped, in which oxidizable impurities in molten iron are removed during the production of steel. NOTE Various types of converters are described in BS 2094, "*Glossary of terms relating to iron and steel*", Part 1, "*General metallurgical, heat treatment and testing terms*".
411	**cupola**	A vertical shaft, generally of circular cross section, in which a metal charge mixed with fuel (usually coke) is melted by burning in a blast of hot or cold air.
412	**duplex furnace** DUAL HEARTH FURNACE TANDEM HEARTH FURNACE	A furnace having two chambers which can be employed in series or in parallel for melting, refining, adjustment of composition, temperature stabilization or other process stages.
413	**electroslag refining furnace**	Similar to an arc furnace (402), except that the electrode tips are submerged in a liquid slag so that no arc is formed above the slag.
414	**hot blast stove** COWPER STOVE	A vertical, refractory lined structure of circular cross section incorporating a combustion chamber and a system of regenerative checkerwork for the collection, storage and transfer of sensible heat; used for preheating the air supply to a blast furnace.
415	**hot metal mixer** ACTIVE MIXER	A horizontal, refractory lined drum of large capacity, with tilting mechanism, for the transportation of molten metal; sometimes used as a reaction vessel.
416	**hot metal receiver** INACTIVE MIXER HOLDING FURNACE CASTING FURNACE	A refractory lined container, sometimes externally heated, for the storage of molten metal between stages of a process.
417	HUNTSMAN FURNACE	A coke fired crucible type furnace for the production of small homogeneous steel ingots.
418	**immersed electrode furnace**	Similar to an arc furnace (402), except that the electrodes are submerged in the (molten) charge.
419	**lip axis furnace**	A melting or holding furnace which tilts about an axis near the lip for pouring.
420	**open hearth furnace**	A steel melting furnace of the reversing-regenerative type ("acid" or "basic" in accordance with the type of refractory material used in construction and, consequently, the kind of steel produced).
421	**puddling furnace** BALLING FURNACE SHINGLING FURNACE	An old type of coal fired reverberatory furnace which was widely used in the production of wrought iron; one in which the processes of melting, clearing, boiling, balling and drawing were completed.
422	**recuperative furnace** RECUPERATOR	A furnace with one or more recuperators of the refractory or metallic type for the recovery of waste heat. A recuperator consists of a number of interspersed passages or flues with dividing walls through which heat is conducted from the waste gases to the combustion air or to the gaseous fuel being preheated. The three general classes are known, according to the principle of operation, as parallel flow, counter flow and cross flow.

No.	Term	Definition
423	**regenerative furnace** SIEMENS FURNACE SIEMENS-MARTIN FURNACE REGENERATOR CHECKER CHAMBER	A furnace incorporating regenerators and operating on the reversing principle. A regenerator consists of a chamber in which an assembly of refractory shapes abstracts sensible heat from the waste gases as they flow to the stack and then, after reversal of the conditions of flow, transfers the accumulated heat to a supply of combustion air or gaseous fuel.
424	**reverberatory furnace** RUCKING FURNACE	A furnace in which the roof and walls radiate heat to the charge. Now almost universally applied to any direct fired furnace with an open bath or hearth, e.g. an air furnace.
425	**rotary melting furnace**	A horizontal refractory lined drum with mechanisms for rotation and tilting.
426	**semi-rotary furnace** ROCKING FURNACE OSCILLATING FURNACE	A reverberatory type, horizontal, cylindrical, refractory lined furnace which is oscillated to transfer heat from the lining to the charge.
427	**submerged arc furnace**	A furnace for electrothermal reduction or smelting, wherein the electrodes project into the charge and a substantial part of the heat is generated by the resistance of the charge materials. Usually top fed and non-tilting; may be charged continuously or intermittently.
428	**tilting furnace** CAMPBELL FURNACE	Any furnace with a tilting mechanism for pouring.

Section 5. Heat treatment and reheating of metals

(See also BS 2094-1[a])

501	**axle furnace**	A continuous or intermittent furnace for the reheating of blooms, prior to forging into axles.
502	**blacksmith's hearth**	A heating unit fired with coke and controlled by a variable air blast, used for reheating metal shapes during forming.
503	**blocky structural furnace**	A furnace in which a specific temperature cycle is employed to give a desired micro-structure.
504	**Catalan forge** AMERICAN BLOOMERY	An obsolete type of furnace, used for the production of wrought iron from charcoal and ore, generally in a finely divided form.
505	**catenary furnace**	A continuous furnace in which wire or strip is suspended between the ends.
506	**chain furnace**	1. A furnace with a chain conveyor. 2. A furnace for the heat treatment of chains.
507	**coiling furnace**	A furnace used in the manufacture of helical springs.
508	**continuous furnace** CONVEYOR FURNACE	A furnace through which the charge progresses on a conveyor during thermal treatment.
509	**continuous strand furnace**	A furnace through which wire, rod or strip is drawn in continuous strands, the effective temperature being non-controlled by the speed of the strand.
510	**controlled atmosphere furnace**	A furnace in which the chemical composition of the atmosphere in the working space is controlled to produce a specific effect.
511	GJERS PITS	An assembly of unfired soaking pits used for the temperature equalization of ingots prior to rolling.

[a] BS 2094, "*Glossary of terms relating to iron and steel*", Part 1. "*General metallurgical, heat treatment and testing terms*".

No.	Term	Definition
512	**hairpin type furnace**	An electric furnace named from the shape of the heating elements.
513	**high intensity furnace** RAPID HEATING FURNACE	A furnace in which the normal rates of heat transfer by radiation and convection are greatly increased.
514	**horizontal rotary drum with internal spiral**	A continuous furnace for the heat treatment of small parts, such as lock washers, ball bearings and screws.
515	**ingot preheating furnace**	A furnace in which steel ingots are slowly preheated before being transferred to other furnaces for the final stages of heating; specifically employed to counter and avoid deterioration and cracking of the ingots.
516	**isothermal annealing furnace**	A multizone continuous furnace with controlled temperature zones, at least one of which is force cooled.
517	**lead bath**	A crucible furnace using molten lead as the heat transfer medium.
518	**mobile furnace**	A furnace mounted on wheels for use in a number of working positions.
519	**monorail furnace**	A furnace through which the work passes suspended from a conveyer of the chain or similar type.
520	**nibbing and slotting furnace** SPRING PLATE FURNACE	A furnace used in the manufacture of laminated springs.
521	**notched hearth furnace**	A furnace with a hearth formation consisting of a series of notches, the billets being conveyed by push rods which lift them from notch to notch and turn them to ensure even heating.
522	**pan conveyor furnace**	A furnace with a pan type conveyor used for the heat treatment of small parts.
523	**pile heating furnace**	An early reverberatory type furnace in which cut lengths of puddled bars and wrought iron scraps were charged in piles and raised to a welding heat for rolling or forging.
524	**pit type furnace**	A furnace in which the charge is top loaded.
525	**plate and angle bar furnace**	A furnace in which plates, angles and other sections are heated prior to bending and shaping.
526	**pusher furnace**	A furnace through which the material to be heated is pushed over a stationary bed.
527	**radiant tube furnace**	A furnace with the heating medium contained in tubes, giving indirect heating by radiation.
528	**reheating furnace** HEATING FURNACE	Any furnace used for the heating of bars, billets, blooms, ingots, plates, rods, slabs or other metal stock prior to rolling, forging, stamping, pressing or other reshaping process.
529	**roll-down furnace**	A furnace with a sloping hearth down which round material under treatment progresses by gravity.
530	**roller hearth furnace**	A furnace in which the charge is carried forward on driven alloy steel or refractory rollers.
531	**rotary reheating furnace** ANNULAR HEARTH FURNACE DOUGHNUT FURNACE PANCAKE FURNACE	A furnace with a rotating circular hearth, charging and discharging positions usually being adjacent.

No.	Term	Definition
532	**rotating furnace, horizontal**	A furnace with a revolving body, openings in which present themselves to the operator in sequence.
533	**rotating retort furnace**	A furnace in which the charge is placed in an inclined rotating chamber, heated externally or internally.
534	**salt bath**	A crucible furnace using molten neutral salt as a heat transfer medium, or molten sodium cyanide for case hardening.
535	**sealed quench furnace**	A composite furnace with a heating chamber and a quench tank with an enclosed vestibule.
536	**shaker hearth furnace** RECIPROCATING HEARTH FURNACE	A furnace through which small parts are conveyed on a vibrating hearth plate.
537	**sheet and pair furnace**	A heating furnace used in the Welsh tinplate industry for bars, plates and sheets.
538	**skelp furnace** FRETZ-MOON FURNACE	An intermittent furnace used in the manufacture of butt welded tubes, for reheating hot rolled strip or plate.
539	**slot furnace** SLOT MOUTH FURNACE TAGGING FURNACE	A furnace with a narrow horizontal opening (slot), used for reheating the ends of bars or tubes.
540	**slotted hearth furnace**	A furnace the hearth of which is fabricated with a number of slots, the charge being mechanically traversed by arms operating through the slots.
541	**soaking pit**	A pit furnace, generally located between the melting shop and the mill, for reheating and temperature equalization of ingots before rolling.
542	**tower annealing furnace**	A continuous strand furnace with vertical heating and cooling zones.
543	**vacuum furnace** VACUUM BRIGHT ANNEALING FURNACE	A vertical cylindrical furnace which can be evacuated; heat is applied externally (hot retort type) or internally, direct to the charge (cold retort type).
544	**walking beam furnace** WALKING HEARTH FURNACE	A furnace in which the work, generally on supports, is alternately raised and set down further along the chamber; this is achieved by the movement of longitudinal beams.
545	**zonally fired furnace**	A furnace with separately fired sections.

No.	Term	Definition
Section 6. firing and heating of ceramics and glass (See also BS 3446 and BS 3447[a])		
601	**air-cushion kiln** HOVER KILN	A tunnel kiln through which a refractory batt supporting the ware is carried on a cushion of hot air.
602	**annular kiln**	A large continuous kiln, rectangular in plan, of a type much used in the firing of building bricks. The bricks are set on the floor of the kiln and the zone of high temperature is made to travel round the kiln by progressively advancing the zone to which fuel is fed. There are two principle types: **longitudinal arch kiln** (632) and **transverse arch kiln**(658).
603	**baking oven**	A continuous furnace used for baking or forming a coating on the inner or outer surfaces of glass articles.
604	**Belgian kiln**	A type of continuous chamber kiln, side fired.
605	**bending kiln**	A kiln used for the bending or shaping of glassware.
606	**biscuit kiln**	A kiln used for the first (biscuit) firing of those ceramic products which are fired twice or more.
607	BOTTLE OVEN	An intermittent kiln for firing pottery, shaped like a bottle, with firemouths around the base.
608	**bushing**	A small electric melting unit, usually made of platinum or platinum alloy, fed with cold pieces of glass of uniform size, with numerous holes in the base through which glass is drawn in fibre form.
609	**bushings**	Similar to bushing, but usually with a plurality of units fed from a common melting furnace, each bushing being electrically heated to provide temperature control.
610	**cell furnace**	A melting chamber and auxiliary chambers in which glass is heated electrically.
611	**chamber kiln**	An annular kiln in which the setting space is permanently subdivided into chambers linked by flues.
612	**continuous kiln**	A kiln in which the full firing temperature is continuously maintained in one zone or another of the kiln.
613	**continuous tank furnace**	A furnace where raw materials are fed in at one end and molten glass is continuously withdrawn at the other. It may consist of more than one compartment.
614	**cross-fired furnace**	A furnace having opposite sets of firing ports or burners in the melting end so that flames travel at right angles to the direction of the glass flow.
615	**crucible furnace**	A furnace in which small quantities of frit or enamel are melted in a crucible.
616	**day tank**	A glass furnace, usually consisting of only one chamber, in which individual batches are melted.
617	**debiteuse kiln**	A furnace for preheating a refractory shape (debiteuse) used in sheet glass manufacture.
618	**decorating kiln**	A tunnel or intermittent kiln, either muffle or electrically heated, with provision for preheating, holding temperature and cooling.
619	**down-draught kiln**	A kiln in which the hot gases from the heat sources first rise to the roof, then descend through the setting and are finally withdrawn through flues in the kiln floor.
620	**end-fired furnace**	A furnace with firing ports or burners in the end wall of the melting end, the flames travelling in the direction of the glass flow.

[a] BS 3446, "*Glossary of terms relating to the manufacture and use of refractory materials*".
BS 3447, "*Glossary of terms used in the glass industry*".

No.	Term	Definition
621	**exhaust oven**	An oven for preheating the ware prior to the creation of a vacuum therein.
622	**float glass bath**	A bath of molten tin over which is flowed a continuous sheet of molten glass, for the continuous production of plate glass.
623	**forehearth** CHANNEL	A projecting chamber, bowl, trough or channel carrying glass from the melting furnace to the forming machine, with means provided for varying the glass temperature to suit the forming process.
624	**fritting furnace** FRIT MELTER FRIT KILN	A furnace in which raw materials are converted to frit.
625	**glory hole**	An open ended chamber for reheating the ware for hand working.
626	**glost kiln**	A kiln used for the second or glazing (glost) firing of a twice or more fired ceramic product.
627	**hardening-on kiln**	A kiln used for firing patterns on pottery under glaze.
628	**Hoffmann kiln**	An open flame longitudinal arch kiln, originally coal or oil fired. It is made for firing building bricks, which are set, fired, cooled and drawn sequentially.
629	**horseshoe furnace**	A furnace with ports situated in the back end wall of the melting end, flames first travelling in the direction of the glass flow, then turned about to flow in the reverse direction to an adjacent port providing a "U" or horseshoe flow pattern.
630	**intermittent kiln**	A batch type kiln in which goods are set, fired and cooled, and from which they are then drawn.
631	**Lancashire kiln**	A type of Hoffmann kiln, having large openings (wickets) to facilitate setting and drawing.
632	**longitudinal arch kiln**	An annular kiln in which the axis of the arched roof, on both sides of the centre line of the kiln, is parallel to the length of the kiln.
633	**Manchester kiln**	A type of top-fired, longitudinal arch kiln introduced in the Manchester area for the firing of building bricks. A distinctive feature is the flue system, with horizontal damper plates, in the outside wall. The Manchester kiln usually has a hot air system.
634	**melting furnace** MELTER	A furnace in which raw materials are melted to form an enamel or glaze.
635	**Mendheim chamber kiln**	A gas fired chamber kiln for the high temperature firing of refractories.
636	**Monnier kiln**	A tunnel kiln designed for the firing of building bricks, fired from the top, the fuel burning among the bricks as in a Hoffmann kiln.
637	**mould oven**	A furnace for preheating glass-forming moulds before use, also for baking on mould deposits.
638	**multi-passage kiln**	Similar to a passage kiln, but with a number of small passages running through one self-contained structure.
639	**multi-stage oven**	A furnace incorporating preheating and heating zones through which the product is moved in intermittent stages.
640	**Newcastle kiln**	A rectangular, coal fired, intermittent muffle kiln for fireclay sanitary ware.
641	**once-fired kiln**	A kiln in which the body and the glaze thereon are fired at one and the same time, instead of in two separate firings.

No.	Term	Definition
642	**passage kiln** PUSHED BATT KILN	A kiln in which the ware is placed on refractory batts (tiles or slabs), which are pushed through progressively, as opposed to a tunnel kiln in which cars on wheels are used and the firing tunnel is smaller.
643	**pot arch**	An arched structure for preheating refractory ware.
644	**rectangular kiln**	An intermittent kiln, rectangular in plan, with heat sources at intervals along the two sides.
645	**refired kiln**	A kiln used for re-firing slightly faulty pieces normally fired once.
646	**revolving pot**	A shallow refractory dish from which glass is gathered by suction.
647	**rotary melter**	A furnace in which frit is melted in a refractory lined drum to produce enamel or glaze.
648	**round kiln** BEEHIVE KILN	An intermittent kiln, circular in plan, with heat sources at intervals round the circumference.
649	**salt glaze kiln**	Any type of kiln in which salt is added at or near maximum firing temperature.
650	**sandwich kiln**	A tunnel kiln designed for rapid firing; the height of the setting is small compared with the width and firing is from above and below the setting.
651	**scove** SCOTCH KILN	An early type of up-draught intermittent kiln for the firing of building bricks.
652	**Staffordshire kiln**	A transverse arch kiln fired from the top into combustion spaces in the setting.
653	**studio kiln**	A relatively small intermittent furnace, used in schools, studios and similar premises.
654	**tank furnace**	A furnace in which glass is melted in a refractory bath.
655	**top-fired kiln**	A kiln fired through apertures in the roof.
656	**toughening kiln**	A continuous furnace with provision for rapid cooling.
657	**toughening oven**	An oven working on the in and out principle, used for preheating glass for tempering or toughening.
658	**transverse arch kiln**	An annular kiln divided into a series of chambers by fixed walls, the axis of the arched roof of each chamber being transverse to the length of the kiln.
659	**tunnel kiln** TUNNEL	A continuous kiln for the firing of ceramic products, the ware being passed through the heat zone, normally on kiln cars, in contraflow to cooling air and heat drift.
660	**up-draught kiln**	An intermittent kiln in which the combustion gases pass through the setting and thence through one or more chimneys in the roof.
661	**working furnace** WORKING CHAMBER WORKING END	A chamber receiving glass from an independently heated melting bath, from which glass may be withdrawn by hand gathering or to serve forehearths.
662	**zig-zag kiln**	A continuous kiln with staggered dividing walls between the chambers, the hot gases thus being forced to follow a zig-zag path through the kiln.

No.	Term	Definition

Section 7. Incineration

701	**batch fed incinerator**	A chamber charged periodically with refuse, each charge being allowed to burn down or burn out before another is added.
702	**burn out furnace** BURN OFF FURNACE	A heated chamber for the removal of coatings or residues from steel drums and other containers.
703	**chain grate incinerator**	An incinerator with a moving grate surface consisting of chain links mounted on rods drawn by sprockets.
704	**circular hearth furnace**	An incinerator with a circular, batch fed grate incorporating a slowly rotating cone with extended arms, which agitate the refuse bed as they revolve.
705	**continuous feed incinerator**	A chamber where refuse charging and residue discharging is carried out in a continuous manner so as to maintain a steady and uninterrupted rate of burning.
706	**cremator**	A heated chamber for the destruction of human bodies by combustion.
707	**effluent incinerator**	A combustion chamber for burning liquid or gaseous waste.
708	**municipal incinerator**	An incinerator operated by a local authority for the disposal of refuse collected from residential, commercial and industrial sources.
709	**on site incinerator** CHUTE FED INCINERATOR FLUE FED INCINERATOR	An incinerator, frequently installed as a factory assembled unit, used for the disposal of refuse as it arises on site. It may be designed to incorporate gravity feed by chute from the upper floors of a building.
710	**oscillating grate incinerator**	An incinerator with a grate, the surface of which oscillates or vibrates to move the bed of burning refuse along its length.
711	**pathological incinerator** ANIMAL CREMATOR	A heated chamber for the destruction of organic waste from research laboratories, hospitals, abattoirs and similar sources.
712	**reciprocating grate incinerator**	An incinerator with a grate having sections which move forward and backward for the purpose of agitating the burning refuse and progressing it from the charging to the discharging end.
713	**reclamation furnace**	A furnace for the recovery of metals or chemicals by the combustion of associated combustible materials.
714	**rocking grate incinerator**	An incinerator with a grate having sections which move with a rocking motion for the purpose of agitating the refuse and progressing it from the charging to the discharging end.
715	**rotary drum grate incinerator**	An incinerator with a grate comprising a number of drums or rollers, placed in series on an inclined slope. Slow rotation of the drums causes the burning refuse to "cascade" down the length of the grate.
716	**rotary kiln incinerator**	An incinerator consisting of a slightly inclined, rotating refractory lined chamber, which promotes the agitation of the burning refuse during its passage through the chamber; often preceded by a primary burning grate.
717	**static grate incinerator**	An incinerator with a static grate, not incorporating any mechanical means of refuse bed agitation.
718	**travelling grate incinerator**	An incinerator in which the grate surface consists of bars or grids supported on two or more endless conveyor chains.
719	**vertical multiple hearth incinerator**	An incinerator consisting of several chambers set vertically one above the other, with a common rotating shaft operating raking arms in each chamber; generally used for sewage sludge disposal.

No.	Term	Definition
Section 8. Drying, banking and metal coating		
801	**"A" type oven**	A double or single ended insulated enclosure through which a conveyor either of the monorail or flight bar pattern is used, the canopy ends providing a working seal.
802	**aluminizing bath**	A bath of molten aluminium in which ferrous material is dipped for coating.
803	**aluminizing furnace**	A furnace in which iron and steel articles are heated in aluminium powder.
804	**batch oven** STATIC OVEN	A double cased oven into which the work is loaded in batches.
805	**blueing oven**	An oven used to produce a blue oxide film on steel.
806	**camel-back oven**	An "A" type oven in which the work is held at the peak of its travel.
807	**core stove**	An oven used for drying foundry cores.
808	**curing oven**	An oven with a horizontal conveyor, or sometimes a batch oven, for heat curing.
809	**direct fired oven** DOUBLE CASED OVEN	An oven in which the products of combustion are circulated through the work space.
810	**drying oven**	A double or triple cased oven with natural or forced air circulation, specifically designed for evaporating a fluid without any other chemical change.
811	**epoxy resin oven**	A horizontal continuous or intermittent oven for the curing and heat setting of resin mouldings.
812	**fan assisted convection oven** FORCED AIR CIRCULATION OVEN	An oven in which a fan is used to produce a uniform flow in the chamber.
813	**fusing furnace**	A furnace for fusing vitreous enamel applied to ware.
814	**galvanizing bath**	A bath of molten zinc in which ferrous material is dipped for coating.
815	**glass fibre preform oven**	A batch type oven operating under negative pressure, fan assisted.
816	**multi-pass oven**	A continuous oven with several passes, either horizontal or vertical.
817	**natural convection oven**	An oven through which the flow of gases is not assisted by artificial means.
818	**plastics oven** PERSPEX OVEN	A batch loaded horizontal or vertical oven, usually with air circulation, for the softening of thermoplastic sheets before forming.
819	**powder drying oven**	A rotating drum or a batch type drying oven with trays.
820	**PTFE (polytetrafluorethylene) sintering oven**	A continuous or batch type oven with a positive exhaust for the removal of toxic fumes.
821	**rod baking oven**	A heated oven used to dry and to drive off occluded hydrogen from rods and wires after pickling and/or lime dipping.
822	**Sherardizing furnace**	A furnace in which iron or steel articles are heated in zinc powder.
823	**spray drier**	An oven in which material is dried by spraying it into a heated chamber.
824	**stenter**	A continuous drying oven for processing cloth.
825	**straight-through oven** STRIP STOVING OVEN THROUGH TYPE OVEN	A continuous oven for processing material in a straight line.

No.	Term	Definition
826	**timber kiln**	An oven for artificially seasoning timber.
827	**tin printing oven**	A straight-through oven used for drying paint or lacquer on sheet material.
828	**tinning bath**	A bath of molten tin in which metal articles are dipped for coating.
829	**triple cased oven**	A direct fired (double cased) oven with an inner lining isolating the heating medium from the working chamber.
830	**"U" type oven**	A conveyor oven in which the conveyor enters and leaves the working chamber at the same end.
831	**varnish oven** STOVE ENAMELLING OVEN	An oven for baking varnishes and paints.

Section 9. Miscellaneous

901	**after burner**	A secondary combustion chamber with auxiliary firing for the removal of combustibles from the exhaust gases of a furnace.
902	**boiler furnace**	The combustion chamber of a boiler.
903	**burner**	The complete unit on which a fuel or fuel/air mixture burns; may be a single component or an assembly.
904	**combustion chamber**	A chamber in which fuel is burned to release heat energy.
905	**concentrator** COOKER POT STILL	An externally heated container or vessel.
906	**gum running furnace** OIL BURNING FURNACE	An externally heated bath or pan used for the running of gum resins.
907	**metasilicate furnace**	A top-heated bath for the continuous production of metasilicates.
908	**waterglass furnace** SILICATE OF SODA FURNACE	A refractory bath in which sodium silicate is melted, either continuously or in batches.
909	**zinc oxide furnace**	A retort, crucible or vacuum furnace for the production of zinc oxide.

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