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and aluminium, with some calcium and sulphur; and is considered to be a sulphide-bearing variety of haüyne. A constituent of lapis lazuli.

lb (*Genrl*) Abbrev for **pound**.

L-band (*Telecomm*) A radar and microwave frequency band, generally accepted as being 1–2 GHz; not frequently referred to because of lack of international conformity in its use.

lb.s.t. (*Aero*) Abbrev for **static thrust** in pounds.

lc (*Print*) Abbrev for **lower case**.

LCA (*Eng*) Abbrev for **life-cycle analysis**.

L-capture (*Phys*) Absorption of an electron from the L-shell into the nucleus of an atom, giving rise to X-rays of characteristic wavelength depending on atomic number of the element. See **K-capture**, **X-ray**.

LC coupling (*Electronics*) Inductor output load of an amplifier circuit is connected through a capacitor to the input of another circuit.

LCD (*Electronics*) Abbrev for **liquid crystal display** (panel).

LCD overhead projector (*ImageTech*) An overhead projector having a liquid crystal display panel, accepting inputs from computer and video hardware. See panel on **Liquid crystal displays**.

LCD projector (*ImageTech*) A video projection system using either a single colour liquid crystal display panel or three filtered b&w panels for red, green and blue signals transilluminated by the projection lamp(s). See panel on **Liquid crystal displays**.

LCD viewfinder (*ImageTech*) An electronic viewfinder using a back-illuminated, colour liquid crystal display panel. See **colour viewfinder** and panel on **Liquid crystal displays**.

L-C filter (*ElecEng*) Property of a component (inductor) in a circuit whereby back emf arises because of rate of change of current. It is 1 henry when 1 volt is generated by rate of change of 1 ampere per second. Often abbreviated to *inductance*.

LCI (*NucEng*) Abbrev for **life-cycle inventory**.

LCLV projector (*ImageTech*) Abbrev for **liquid crystal light valve projector**.

LCN (*Aero*) Abbrev for **load classification number**.

L-cysteine hydrochloride (*FoodSci*) Reducing agent used as an improver in baking.

LD₅₀ (*Bot*) The dose of a toxic substance that, administered in a named way, will kill 50% of a large number of individuals of a given species.

L-display (*Radar*) A radar display in which the target appears as two horizontal pulses, left and right from a central vertical time base, varying in amplitude according to accuracy of aim.

L₊, L₀, L_R dose of toxin (*Immun*) Used in standardizing diphtheria toxin and antitoxin. Describes the quantity of toxin which, when mixed with one standard unit of antitoxin, respectively either kills a guinea pig under standardized conditions, or when injected subcutaneously produces no observable reaction, or when inoculated into the skin produces a minimal lesion.

LDPE (*Chem*) Abbrev for **low density polyethylene**.

L/D ratio (*Eng*) Property of an injection moulding screw or extrusion screw, defined by ratio of screw length to flight diameter. It is typically 20–30 to 1 for thermoplastics and 5–10 to 1 for rubbers. See **extrusion**.

leached zone (*MinExt*) See **gossan**, **secondary enrichment**.

leaching (*Bot*) The removal of substances from soils by percolating water. Cf **cheluviation**, **flush**, **lessivage**, **podsol**.

leaching (*MinExt*) The extraction of a soluble metallic compound from an ore by dissolving in a solvent eg cyanide, sulphuric acid. The metal is subsequently precipitated or adsorbed from the solution.

leaching (*NucEng*) The removal, usually by water, of a substance from a solid as in the removal of fission products from the vitrified blocks designed to contain them.

lead (*Build*) The leaden came of a lattice window.

lead (*Chem*) Symbol Pb, at no 82, ram:207.19, valency 2 or 4, mp 327.4°C, bp 1750°C, rel.d. at 20°C 11.35. Specific electrical resistivity $20.65 \times 10^{-8} \Omega \text{ m}$. A metallic element in the fourth group of the periodic system. Abundance in the Earth's crust 13 ppm. Occurs chiefly as **galena**. The naturally occurring stable element consists of four isotopes: Pb 204 (1.5%), Pb 206 (23.6%), Pb 207 (22.6%) and Pb 208 (52.3%). It is used as shielding in X-ray and nuclear work because of its relative cheapness, high density and nuclear properties. Other principal uses: in storage batteries, ammunition, foil and as a constituent of bearing metals, solder and type metal. Lead can be hardened by the addition of arsenic or antimony. It occurs very rarely in the native form, and then appears to have been formed by fusion of some simple lead ore accidentally incorporated in lava. Toxic.

lead (*CivEng*) (1) See **haul distance**. (2) In railway track, the distance from the nose of the **crossing** to the nose of the **switch**.

lead (*ElecEng*) (1) A term often used to denote an electric wire or cable. (2) See **backward shift**, **brush shift**, **forward shift**.

lead (*Eng*) Distance between consecutive contours, on the same helix of a screw-thread measured parallel to the axis of the screw; it is the axial distance a nut would advance in one complete revolution, equal to **pitch** in single start threads.

lead (*Surv*) The leaden sinker secured at one end of a **lead line**. See **leads**.

lead-acid accumulator (*ElecEng*) A secondary cell consisting of lead electrodes, the positive one covered with lead dioxide, dipping into sulphuric acid solution. Its emf is about 2 volts; very widely used. Also **lead accumulator**. See **accumulator** (2).

lead age (*Min*) The age of a mineral or rock calculated from the ratios of its radiogenic and non-radiogenic lead isotopes.

lead- and leave-edges (*Print*) On printing presses the first and last edges of the product to be printed.

lead azide (*Chem*) PbN₆. Explosive like most azides. Sometimes used, instead of mercury fulminate, as a detonator for TNT.

lead burning (*Build*) The process of welding together two pieces of lead, thus forming a joint without the use of solder.

lead (II) carbonate (*Chem*) PbCO₃. Occurs in nature as cerussite. At about 200°C it decomposes into the (II) oxide and carbon dioxide. Readily reduced to metal by CO.

lead (II) chromate (IV) (*Chem*) PbCrO₄. Precipitated when potassium chromate (VI) is added to the solution of a lead salt. Used as pigments, called *chrome yellows*. The colour may be varied by varying the conditions under which the precipitation is made.

lead disilicate (*Chem*) Obtained by fusing lead (II) oxide and silica together. As **lead frit**, it is used as a ready means of incorporating lead oxide in the making of **lead glazes**.

lead dot (*Build*) A lead peg or dowel used to fasten sheet lead to the upper surface of a coping or cornice, for which purpose it is run into a mortise in the stone.

leaded (*Eng*) Term descriptive of copper, bronze, brass, steel, nickel and phosphor alloys to which from 1% to 4% of lead has been added, mainly to improve machinability.

leaded lights (*Build*) A window formed of (usually) diamond shaped panes of glass connected together by leaden cames.

lead equivalent (*Radiol*) Absorbing power of a radiation screen expressed in terms of the thickness of lead which would be equally effective for the same radiation.

leader (*Bot*) The younger part of the main stem or a main branch of woody plants. Its branches are called *laterals*. See **spur**.

leader (*Build*) See **conductor**.

leader (*ImageTech*) A strip at the beginning (head leader) or end (tail leader) of a reel of film or tape for protection and identification.