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**DICTIONARY OF  
SCIENTIFIC AND  
TECHNICAL  
TERMS**

**Fifth Edition**

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# McGraw-Hill Dictionary of Scientific and Technical Terms

## Fifth Edition

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On the cover: Photomicrograph of crystals of vitamin B<sub>12</sub>.  
(Dennis Kunkel, University of Hawaii)

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## fluorene

colorless, nonflammable solid; soluble in water with partial decomposition; used as organic synthesis catalyst and in electroplating. { 'flü-er-ēn } [ORG CHEM]  $C_{18}H_{18}O_2$  A solid, crystalline compound with a melting point of 70–71°C; used as an herbicide for vegetables, cereals, and ornamental flowers. { 'flü-er-nól }

**flurry** [METEOROL] A brief shower of snow accompanied by a gust of wind, or a sudden, brief wind squall. { 'flör-ē }

**flush** [ECOL] An evergreen herbaceous or nonflowering vegetation growing in habitats where seepage water causes the surface to be constantly wet but rarely flooded. [ENG] Pertaining to separate surfaces that are on the same level. [GRAPHICS] A printing term that means no indentation; headings are often run flush left, that is, they align at the left margin; flush-right lines align at the right. { 'flësh }

**flush bead** See quirk bead. { 'flësh ,bēd }

**flush coat** [CIV ENG] A coating of bituminous material, used to waterproof a surface. { 'flësh ,kōt }

**flush center** See center-justify. { 'flësh 'sen-tər }

**flush cover** [GRAPHICS] In bookbinding, a book cover that has been trimmed to the same size as the text pages inside. { 'flësh 'kāv-ər }

**flushed-zone resistivity** [PETRO ENG] Electrical resistivity of the reservoir area which surrounds a borehole to a distance of at least 3 inches (7.6 centimeters) and for which the original interstitial fluids have been flushed out by drilling-mud filtrate. { 'flësh ,zōn rē ,zīs'tiv-əd-ē }

**flush gate** [CIV ENG] A gate for flushing a channel that lies below the gate of a dam. { 'flësh ,gāt }

**flushing** [CIV ENG] The removal or reduction to a permissible level of dissolved or suspended contaminants in an estuary or harbor. [ENG] Removing lodged deposits of rock fragments and other debris by water flow at high velocity; used to clean water conduits and drilled boreholes. { 'flësh-īŋ }

**flushing oil** [MATER] A solvent oil designed to remove used lubricating oil, decomposition products, and accumulated dirt from lubrication passages, crankcase surfaces, and lubricated moving parts of automotive engines. { 'flësh-īŋ ,ōil }

**flushing period** [HYD] The interval of time required for a quantity of water equal to the volume of a lake to pass through the lake outlet; computed by dividing lake volume by mean flow rate of the outlet. { 'flësh-īŋ ,pī-rē-əd }

**flush-joint casing** [PETRO ENG] Lengths of casing that when connected end to end form a smooth joint flush with the outer diameter of the remainder of the section length. { 'flësh 'jōint 'kās-īŋ }

**flush left** See left-justify. { 'flësh 'left }

**flushometer** [ENG] A valve that discharges a fixed quantity of water when a handle is operated; used to flush toilets and urinals. { 'flësh-ō-mē-tər }

**flush production** [PETRO ENG] First yield from a flowing oil well during its most productive period. { 'flësh prō ,dæk-shən }

**flush right** See right-justify. { 'flësh 'rīt }

**flush tank** [CIV ENG] 1. A tank in which water or sewage is retained for periodic release through a sewer. 2. A small water-filled tank for flushing a water closet. { 'flësh ,tæŋk }

**flush valve** [ENG] A valve used for flushing toilets. { 'flësh 'vālv }

**flute** [DES ENG] A groove having a curved section, especially when parallel to the main axis, as on columns, drills, and other cylindrical or conical shaped pieces. [GEOL] 1. A natural fissure running vertically down the face of a rock. 2. A groove in a sedimentary structure formed by the scouring action of a turbulent, sediment-laden water current, and having a steep up-current end. { 'flüt }

**flute cast** [GEOL] A raised, oblong, or subconical welt on the upper surface of a siltstone or sandstone bed formed by the erosion of a flute. { 'flüt ,kast }

**flute chucking reamer** [DES ENG] A machine reamer with straight or tapered shank and with straight or spiral flutes; the ends of the teeth are ground on a slight chamfer for end cutting. { 'flüt-əd 'çhāk-īŋ ,rēm-ər }

**fluted coupling** See stabilizer. { 'flüt-əd 'kōp-īŋ }

**flute length** [DES ENG] On a twist drill, the length measured from the outside corners of the cutting lips to the farthest point on the back end of the flutes. { 'flüt ,length }

**flux storage** [ELECTR] Ferrite storage consisting of a number of parallel lengths of fine prism-shaped tubing, each surrounding a insulated axial conductor that acts as a word line; the lengths

of tubing are intersected at right angles by parallel sets of insulated wire bit lines that are displaced slightly from the word lines; each intersection stores one bit. { 'flüt 'stōr-ij }

**fluting** [MECH ENG] A machining operation whereby flutes are formed parallel to the main axis of cylindrical or conical parts. { 'flüd-īŋ }

**flutter** [ACOUS] Distortion that occurs in sound reproduction as a result of undesired speed variations during the recording, duplicating, or reproducing process. [ELECTROMAG] A fast-changing variation in received signal strength, such as may be caused by antenna movements in a high wind or interaction with a signal or another frequency. [ENG] The irregular alternating motion of the parts of a relief valve due to the application of pressure where no contact is made between the valve disk and the seat. [FL MECH] aeronautical flutter. [MED] Rapid, regular contraction of the atrial muscle of the heart. { 'fləd-ər }

**flutter echo** [ACOUS] A multiple echo in which the reflections rapidly follow each other. [ELECTROMAG] A radar echo consisting of a rapid succession of reflected pulses resulting from a single transmitted pulse. { 'fləd-ər ,ek-ō }

**flutter valve** [ENG] A valve that is operated by fluctuations in pressure of the material flowing over it; used in carburetors. { 'fləd-ər ,vālv }

**fluvarium** [ENG] A large aquarium in which the tanks contain flowing stream water maintained by gravity, not pumps. { 'flü'ver-ē-əm }

**Fluvent** [GEOL] A suborder of the soil order Entisol that is well-drained with visible marks of sedimentation and no identifiable horizons; occurs in recently deposited alluvium along streams or in fans. { 'flü-vənt }

**fluvial** [HYD] 1. Pertaining to or produced by the action of a stream or river. 2. Existing, growing, or living in or near a river or stream. { 'flü-vē-əl }

**fluvial cycle of erosion** See normal cycle. { 'flü-vē-əl 'sī-kəl əv ə'rō-zhən }

**fluvial deposit** [GEOL] A sedimentary deposit of material transported by or suspended in a river. { 'flü-vē-əl dī'pāz-ət }

**fluvial sand** [GEOL] Sand laid down by a river or stream. { 'flü-vē-əl 'sænd }

**fluvial soil** [GEOL] Soil laid down by a river or stream. { 'flü-vē-əl 'sōil }

**fluvialite** [GEOL] Resulting from river action. { 'flü-vē-əl 'tīl }

**fluviology** [HYD] The science of rivers. { 'flü-vē-'äl-ə-jē }

**fluviomorphology** See river morphology. { 'flü-vē-ō-mōr'fāl-ə-jē }

**flux** [ELECTROMAG] The electric or magnetic lines of force in a region. [MATER] 1. In soldering, welding, and brazing, a material applied to the pieces to be united to reduce the melting point of solders and filler metals and to prevent the formation of oxides. 2. A substance used to promote the fusing of minerals or metals. 3. Additive for plastics composition to improve flow during physical processing. 4. In enamel work, a substance composed of silicates and other materials that forms a colorless, transparent glass when fired. Also known as fondant. [NUCLEO] The product of the number of particles per unit volume and their average velocity; a special case of the physics definition. Also known as flux density. [PHYS] 1. The integral over a given surface of the component of a vector field (for example, the magnetic flux density, electric displacement, or gravitational field) perpendicular to the surface; by definition, it is proportional to the number of lines of force crossing the surface. 2. The amount of some quantity flowing across a given area (often a unit area perpendicular to the flow) per unit time; the quantity may be, for example, mass or volume of fluid, electromagnetic energy, or number of particles. { 'fləks }

**fluxball** [ELECTROMAG] A type of magnetic test coil in which the wire is wound into the form of a solid spherical winding by combining a series of coaxial cylindrical windings of different lengths; it gives accurate values of the magnetic flux density (or its variation) at its center, even in a nonuniform magnetic field. { 'fləks ,bōl }

**flux-closure domain** See closure domain. { 'fləks ,klōz-ər dō ,mān }

**flux-cored welding** [MET] Welding with a metal electrode that has a flux core. { 'fləks ,kōrd 'weld-īŋ }

**flux density** [NUCLEO] See flux. [PHYS] Any vector field whose flux is a significant physical quantity; examples are magnetic flux density, electric displacement, gravitational field, and the Poynting vector. { 'fləks ,den-səd-ē }

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