

GLOSSARY OF ELECTROLYTIC CARBURETOR TERMS

Required for a Multidisciplinary Endeavor to build the "Water Car"

[Some of these definitions are as I perceive them. –ed.]

A

Absorbs: To take (something) in through or as through pores or interstices.

Ambient air: un-modified, surrounding, atmospheric air. Ambient air typically has an R.H. (relative humidity) of 3%. The humidity content can often vary from 10-100% R.H.

Amps: Amperage, current flow. symbol (I). Measured with an ammeter (amp-meter). I equals E/R , or, 110 volts divided by 55ohms (Ω) equals 2 amps, as an example. Allow a device that is handling current to be rated at 75% of its' maximum operating amperage.

Analog signals: can be supplied from thermistors, thermocouples, transistors, vacuum tubes, transformers, speakers, etc. These signals vary in amplitude, modulation, and/or frequency, etc., and are not "digital."

Anode (typically Positive): Bolt, post, or plate to which a voltage and current are applied. The Greek $\acute{\alpha}\nu\omicron\delta\omicron\varsigma$ = 'going up' is the positive electrode in an electrolytic system or circuit.

ASIC (Application Specific Integrated Circuit): can be a proto-type constructed circuit designed to control multiple applications in an h2 carburetor system.

Atmospheric pressure: at sea level, typically 13 psi.

Atomized: made particulate, or, very small. Typically, the "vaporization" of a liquid to an aerosol, or a gaseous state.

C

Carbon: The vibronic, centrifugal, vibrational, and rotational contributions to the polarizability of. No References found.

Carburet: To combine or to impregnate with carbon, as by passing through or over a liquid hydrocarbon.

Catalysis: NOUN: The action of a catalyst, especially an increase in the rate of a chemical reaction.

Cathode (typically Negative): is the electrode of an electrochemical cell at which reduction occurs.

Circuit diagram: usually drawn with "universal symbols," details the lay-out of all the electrical components in a project, or device.

Compressed air: can be derived from a compressor, a venturi effect, a heating effect, or a combination thereof. Cold, compressed air can aid in a more efficient combustion in an ICE. Cooling of compressed air can result in condensation.

Condensing, condensation: exposing ambient, compressed, or heated air to a cold surface, results in the extraction of moisture from the air, in which h2o settles on the colder surface. A condenser is a device that can rapidly remove large amounts of heat from a fluid or gas passing thru it. To condense useable h2o from exhaust gas, you'd have

to have a condenser capable of removing 680 BTU/hr, which could be aided by convection (fan), by liquid cooling (freon), or the like.

Conductor: a material that allows for electrons to flow thru it. In the case of a gaseous vapor, a plasma can be designed to carry current.

Cooling fins: are often required when dealing with an electrolyte that is subject to excessive heating.

Corrosive, corrosion: destruction of molecules, due to exposure to rapid oxidation, as when acid eats thru metal.

CPU: Central Processing Unit, handles necessary sorting of data, and acts upon that data.

Current: Measured in "amps." sym. I. A flow of electrons, the amount of which is determined by Voltage and Resistance.

D

DAP: Data Acquisition Processors receive incoming signals from analog or digital sensors, and forwards that information to a CPU, for processing.

Desalinization: the removal of salt from a solution.

Deuterium: or, Heavy Water. The chemical symbol ^2H identifies deuterium. The NMR frequency of deuterium is significantly different from common light hydrogen. D_2O is more viscous than H_2O .

Dew point:

Diatomic: molecules formed exactly by two atoms, of the same or different elements.

Digital signals: usually originate from thresholds, on/off pulses, go/no-go situations, hi/low peaks, etc. Mechanical devices that can be digital are relays, switches, shut-off valves, pressure release valves, etc. Most electronic circuits composed of IC's are digital. Older circuits with transistors, triacs, varistors, vacuum tubes, etc. are not usually digital. Conversion of analog to digital, or vice-versa is sometimes desirable, and may be achieved with transformers, diodes, capacitors, and certain IC's, etc.

Dissociate: to strip atoms from association with other atoms. To dissociate molecules into individual parts (atoms).

E

EFI (Electronic Fuel Injection): replaced carburetors as the means in which to control the deliverance of atomized fuel to the ICE.

Electrolysis: a method of separating bonded elements and compounds, using chemical, electrical, sonic, mechanical, heat, implosion, de-compression, centrifugal, or any combination of methods.

Electrolyte: is a substance containing free ions which behaves as an electrically conductive medium in which charged electrodes are placed. Suitable electrolytes are bicarbonates, hydroxides, or mixtures thereof.

EMF (Electro Magnetic Fluid): appears in the Dingle water car design.

Endothermic reaction:

Energy barrier:

Enthalpy:

Entropy:

Evolved: Changed from one condition, or state, to another condition or state.

Exothermic reaction:

F

Flame point: the top of a power stroke in an ICE at which the spark plug fires. The flame velocity may be increased by the introduction of hydrogen into the fuel system.

Fossil fuels: typically gasoline, which is carbon based.

G

Generator: Mechanical or chemical device used in the production of electron flow, i.e. voltage and/or current.

Gibbs free energy:

H

Hydrocarbon: Typically gasoline. Any of numerous organic compounds, such as benzene and methane, that contain only carbon and hydrogen.

I

ICE: Internal Combustion Engine.

Inert gas: the part of a molecule that does little or nothing, in the disintegration or recombination to another molecule, such as nitrogen.

Interstices: between one thing and another, in this instance, between electrodes or porous (permeable) elements, blocks or materials.

K

Kelvin (K): measurement of temperature, in degrees Kelvin.

Kilo-amps: Kilo being the term for 1,000, this would mean 1,000 amps.

Kilo Joules:

L

Lignite: is the lowest rank of coal and used almost exclusively as fuel for steam-electric power generation.

M

Mixing chamber: used for mixing denser fluids (water) with air & gasoline (and h₂).

Mixing venturi: (see Venturi) commonly used for combining gasoline and air together. Also, for combining h₂ with the mix.

Modulation: variance in amplitude of voltage, current, signal, or a combination thereof in an attempt to achieve a steady state condition.

Mole: unit of measurement. A mole is the amount of pure substance containing the same number of chemical units as there are atoms in exactly 12 grams of carbon-12 (i.e., 6.023×10^{23}).

Molecule: the smallest combination of atoms, in which substance is maintained.

N

Nanotubes:

NMR: Nuclear magnetic resonance is a physical phenomenon based upon the magnetic property of an atom's nucleus.

O

Ohms: Ω (see Resistance). Measured with an VOM (Voltage-Ohm Meter).

Ohms Law: $E/I \cdot R$, pronounced "EoverIR" (Voltage over Current times Resistance).

The other formula, $P/E \cdot I$, is pronounced "PoverEI" (Power over Voltage times Current).

These are pre-2k terms used in the electronics industry. I've noticed a change in the current industry, which may lead to confusion and misunderstandings in the current electronics field. For example, one web site uses $C=I/R$ for Ohm's Law, which really makes for a confusing situation.

Oxidation: is any chemical reaction that is similar to the combination of a substance with oxygen

P

Paraffin: Canning wax. In hydrogen technology, typically used to prevent "sloshing" of water & gases in an electrolysis canister. It tends to seal, and float on top of the water.

Patents: I consider these the best source for learning hydrogen and fuel consumption improvement ideas, already thought of by predecessors in this field.

PEM (Proton Exchange Membrane): can function as a hydrogen generator by electrolytically decomposing water to produce hydrogen and oxygen gas, and can function as a fuel cell by electrochemically reacting hydrogen with oxygen to generate electricity.

Photo Initiated Electron Collection:

Plasma: Matter in a viscous state that allows for enhanced electron flow.

Proximal: Near to an origin, or point of attachment.

PSI: Pounds Per Square Inch. Pressure measurement.

R

Rating: is very important when building a device with electrical components. Ratings involves tolerances, wattage, voltage and other specs. Keep components within their respective ratings to prevent shorts, and burn-outs.

Reducing agent: is a substance used in electrochemistry that reduces (changes) another substance to a different molecular compound.

Reduction: the process where a substance gains electrons. Oxidation and reduction reactions occur simultaneously as one substance gives electrons and the other receives them.

Resistance: Measured in “ohms” Ω , symbol (R). A resistor is a device that tends to oppose, or restrict current flow. EoverI (E/I) is used to find the total resistance of a circuit. Example: A 100 volt circuit is using 2 amps, therefore the effective resistance of the circuit is 50 Ω . You would also need to calculate the current of the load to prevent the circuit from burning up. (See: Rating.)

Rheostat: a variable resistor. Provides for “adjustable” resistance.

RMS: Root Mean Square or the square root of the arithmetic mean (average) of the square's set of values. A reasonably accurate method of describing an amplifier's power output. The “effective, or useful” output of a device, and not the “maximum” output. Usually figure about 75% of the maximum output, so the device won't be “over-loaded.”

S

Salt water: in h2 technology, this is a desirable electrolyte, as there is an abundance of this solution around the world.

Schematic: circuit or mechanical diagram of an operational device.

Solution: a homogeneous mixture composed of one or more substances, known as solutes, dissolved in another substance, known as a solvent.

Steady State Condition: a condition in which some specified characteristic of a condition, such as a value, rate, periodicity, or amplitude, exhibits only negligible change over an arbitrarily long period of time.

Stratified water: Placed in alternate layers with something else, in carburetion technology, usually referring to gasoline and water.

Suction tube: usually a hose, hooked to the intake manifold for the proper vacuum effect. Typically, the negative pressure (suction) at the intake manifold (on a V-8 ICE) is 20 inches of mercury (inHg). By adding a suction hose from the intake manifold to a carburetor with a float bowl, and dropping 1 inHg to the top of the float bowl, an increase in fuel economy may be observed. This was a method used in the 80's by George Wiseman of Eagle Caruretors.

Supra Molecular Complex:

System Work, formula for:

T

Thermodynamics, first law of:

V

Vacuum: A state in which particles or gases are removed or vacated from an area, causing a decrease in pressure inside that area.

Vaporization: The act or process of vaporizing, or the state of being converted into vapor.

Venturi: A constrictive device in which a fluid, or gaseous vapor that passes through the constriction experiences a change in velocity and pressure, upon entering and exiting the constriction. Most notable is the “suction” effect, upon exiting the constriction, which is typically used to combine atomized fluids and air together.

Voltage: Measured in “volts.” sym. E. A potential source of large electron flows.

W

Water injection: usually incorporates a method of making “water” less dense by atomization, or sonication, or similar methods disbursement (vaporization).

Watts: combined voltage, current, resistance across a device. Typically a light bulb filament, or, a resister (load). The amount of “Power” a device consumes is measured in Watts. The formula, $P/E*I$, is pronounced “PoverEI” (Power over Voltage times Current). Example: a 110volt light bulb, drawing 2amps, would be consuming 220watts of power per hour.

Note: it is desirable to learn these terms when examining H₂O, hydrogen or high-mileage patents. While we may use "rote memory" to learn these terms, such fruitless memorization would only be of use in “practice,” or by actually “experimenting” in the hydrogen field of technology. Standard “caveats” apply to the experimentating with hydrogen gas.

Good sources of definitions: http://en.wikipedia.org/wiki/Main_Page

[Editor – PEA RESEARCH, 6/21/06] (Rev. date: 7/25/06) This glossary of terms is subject to the bias of the author, LeRoy Pea.