

# Glossary

- AC (alternating current)** [ABBREV-U1] An **AC (alternating current)** is an electrical current that changes its direction of flow at regular intervals. *prąd przemienny*
- aerodynamics** [N-UNCOUNT-U13] **Aerodynamics** is the study of how air moves around solid objects. *aerodynamika*
- alloy** [N-COUNT-U10] An **alloy** is a mixture of two metals or of a metal and a non-metal. *stop (np. metali)*
- ampere** [N-COUNT-U1] An **ampere** is a unit that measures the flow of an electrical current. *amper*
- analysis** [N-COUNT-U6] An **analysis** is an examination or report on the structure or functionality of something. *analiza*
- approach** [N-COUNT-U6] An **approach** is a way of dealing with or looking at something. *podejście, metoda (sposób robienia czegoś)*
- assemble** [V-T-U7] To **assemble** something is to put its parts together. *składać, montować (np. maszynę)*
- attack** [V-T-U6] To **attack** a problem is to make a determined or focused effort to solve it. *tu: zabrać się (do czegoś)*
- brainstorm** [V-T-U6] To **brainstorm** something is to discuss it in order to develop new ideas or solutions. *tu: robić/organizować burzę mózgow*
- brittle** [ADJ-U11] If something is **brittle**, it breaks or cracks easily when it is bent or stretched. *kruchy*
- buoyancy** [N-UNCOUNT-U13] **Buoyancy** is a force that a fluid exerts in an upward direction that causes an object to float. *wyporność; pływalność*
- ceramics** [N-COUNT-U10] **Ceramics** are solid, non-metal materials that retain their shapes when heated. *ceramika (np. budowlana)*
- charge** [N-COUNT-U1] A **charge** is the amount of electricity that something carries. *ładunek (elektryczny)*
- circuit** [N-COUNT-U1] A **circuit** is a complete, closed path through which an electrical current can flow. *obwód elektryczny*
- claims** [N-COUNT-U8] **Claims** are details in a patent that clearly state what is protected by the patent. *prawa (do czegoś)*
- classical mechanics** [N-UNCOUNT-U2] **Classical mechanics** is the study of the motion of relatively large and slow-moving things, including parts of machines, gases, liquids, and projectiles. *mechanika klasyczna*
- closed system** [N-COUNT-U3] A **closed system** is a system that functions without gaining or losing mass. *układ termodynamicznie zamknięty*
- compression** [N-UNCOUNT-U14] **Compression** is a type of stress that makes something denser by pressing its materials more tightly together. *ściskanie; sprężanie; kompresja*
- conclusion** [N-COUNT-U9] A **conclusion** is a decision or determination that is made after an experiment. *wniosek, konkluzja*
- concrete** [N-UNCOUNT-U10] **Concrete** is a hard building material that is made from a mixture of cement, gravel, water, and sand. *beton*
- conductor** [N-COUNT-U11] A **conductor** is a material that allows electricity to flow through it easily. *przewodnik (materiał przewodzący prąd elektryczny)*
- constraint** [N-COUNT-U7] A **constraint** is a restrictive condition. *ograniczenie*
- construct** [V-T-U7] To **construct** something is to build it. *konstruować, budować*
- consultant** [N-COUNT-U15] A **consultant** is a person who gives advice about how to do or manage something. *konsultant, doradca*
- consumption** [N-UNCOUNT-U3] **Consumption** is the amount of an extensive quantity that is destroyed during a particular period of time. *zużycie; konsumpcja*
- control group** [N-COUNT-U9] A **control group** is a part of an experiment that does not receive the substance or treatment that is being tested. *grupa kontrolna (np. w badaniach)*
- coordinate system** [N-COUNT-U12] A **coordinate system** is a part of a free body diagram that establishes the directions of positive and negative forces in the diagram. *układ współrzędnych*
- criteria** [N-COUNT-U7] **Criteria** are standards or requirements that must be met. *kryteria*
- cumulative** [ADJ-U12] If something is **cumulative**, it includes all additions of new material or information over a period of time. *kumulatywny, zbiorczy, łączny; narastający*
- current** [N-COUNT-U1] A **current** is a flow of electricity that is caused by the movement of charged particles. *prąd (elektryczny)*
- DC (direct current)** [ABBREV-U1] A **DC (direct current)** is an electrical current that flows in only one direction. *prąd stały*

- design engineer** [N-COUNT-U15] A **design engineer** is an engineer who creates and implements plans for machines and systems. inżynier projektant
- design patent** [N-COUNT-U8] A **design patent** is a patent that protects a logo, image, or other ornamental design. zastrzeżony wzór użytkowy
- detailed design** [N-COUNT-U7] A **detailed design** is an in-depth version of a design, usually updated from the preliminary design with the results of research and analysis. projekt wykonawczy
- diameter** [N-COUNT-U4] A **diameter** is a measurement across the center of a circle at its widest point. średnica
- drag** [N-UNCOUNT-U13] **Drag** is a force that opposes the motion of a solid object through a fluid. opór
- drawing** [N-COUNT-U8] A **drawing** is a visual representation of something. rysunek
- driving force** [N-COUNT-U4] A **driving force** is a factor that propels something forward or along a set path. siła napędowa
- ductile** [ADJ-U11] If something is **ductile**, it has the ability to change shape when it is bent or stretched. plastyczny, elastyczny, ciągliwy, giętki, dający się urobić
- elastic behavior** [N-UNCOUNT-U14] **Elastic behavior** is the reversal of structural changes after forces are removed from an object. elastyczność, właściwości elastyczne
- elastic limit** [N-COUNT-U11] An **elastic limit** is the point at which applying any more force to a material would make it unable to return to its original size and shape. warunkowa granica elastyczności
- electron** [N-COUNT-U1] An **electron** is a subatomic particle that carries a negative charge. elektron
- elongation** [N-UNCOUNT-U14] An **elongation** is a measurement that indicates how much an object can stretch before breaking. wytrzymałość na rozciąganie
- energy** [N-UNCOUNT-U2] **Energy** is the ability to perform useful work. energia
- engine** [N-COUNT-U15] An **engine** is a machine that converts energy into movement, and is often used to create power for vehicles and other systems. silnik
- equilibrium** [N-UNCOUNT-U12] **Equilibrium** is a state in which forces acting on an object balance each other by having equally strong yet opposite effects. równowaga (fizyczna)
- evaluate** [V-T-U9] To **evaluate** something is to carefully study it and assess its qualities. oceniać, szacować, dokonywać ewaluacji, poddawać ocenie; określać wartość (wyrażać wartość liczbą)
- event** [N-COUNT-U5] An **event** is a group of actual outcomes in an experiment. tu: rezultat, wynik (np. eksperymentu)
- experiment** [N-COUNT-U9] An **experiment** is a scientific process that is designed to reveal the effect of something. eksperyment, doświadczenie naukowe
- experimental group** [N-COUNT-U9] An **experimental group** is a part of an experiment that receives the substance or treatment that is being tested. grupa eksperymentalna
- extensive quantity** [N-COUNT-U3] An **extensive quantity** is an amount that changes based on the size of a system and has distinct, countable units. wielkość ekstensywna
- fail** [V-I-U14] To **fail** is to be unable to perform or fulfill a task or purpose. zawieść, ulec awarii, przestać działać; ponieść porażkę; nie udać się
- feasibility study** [N-COUNT-U7] A **feasibility study** is a period of research to determine whether a proposition is possible and likely to be successful, based on realistic conditions. analiza/ studium wykonalności
- final** [ADJ-U3] If something is **final**, it is related to the status of something at the end of a process or period of time. końcowy, ostateczny (np. wynik)
- flow rate** [N-COUNT-U4] A **flow rate** is the amount of fluid that is able to flow in a given amount of time. prędkość/ natężenie przepływu
- fluid** [N-COUNT-U13] A **fluid** is a substance, such as a liquid or gas, that has no defined shape and has the ability to flow freely. płyn (np. ciecz, gaz)
- flux** [N-UNCOUNT-U4] **Flux** is the rate of movement of a quantity of liquid over time. przepływ, strumień
- free-body diagram** [N-COUNT-U12] A **free-body diagram** is a kind of drawing that is used to study all the forces on a particular object. wykres ciała swobodnego, wykres rozkładu sił
- gas** [N-COUNT-U13] A **gas** is a fluid that spreads evenly to fill its container. gaz (substancja w stanie gazowym)
- generation** [N-UNCOUNT-U3] **Generation** is the amount of an extensive quantity that is created during a particular period of time. wytwarzanie, generowanie, produkcja

# Glossary

- generator** [N-COUNT-U15] A **generator** is a machine that produces electricity. *generator, agregat prądowórczy, prądnica*
- glass** [N-UNCOUNT-U10] **Glass** is a hard material that is usually transparent and is often used to make windows. *szkło*
- gravity** [N-UNCOUNT-U2] **Gravity** is a natural attractive force that brings particles together. *grawitacja*
- hardness** [N-UNCOUNT-U11] **Hardness** is a measure of how well an object maintains its shape or surface tension under stress. *twardość*
- hypothesis** [N-COUNT-U9] A **hypothesis** is an idea or statement that explains something, but which has not been tested or proven correct. *hipoteza*
- identify** [V-T-U7] To **identify** something is to recognize or establish it. *rozpoznać, zidentyfikować*
- improvement** [N-COUNT-U8] An **improvement** is a change that makes something better. *ulepszenie, usprawnienie, poprawa*
- independent** [ADJ-U5] If two events are **independent**, the occurrence of one event has no impact on, and is not affected by the occurrence of the other event. *niezależny*
- independent variable** [N-COUNT-U9] An **independent variable** is a factor that changes from one group to another in an experiment. *zmienna niezależna*
- initial** [ADJ-U3] If something is **initial**, it is related to the status of something at the beginning of a process or period of time. *początkowy, wstępny*
- inlet** [N-COUNT-U4] An **inlet** is a place of entry. *wlot, otwór wlotowy*
- input** [N-COUNT-U3] An **input** is the amount of an existing extensive quantity that is added to a system during a particular period of time. *wkład; wejście; moc wejściowa*
- inspect** [V-T-U15] To **inspect** something is to examine it closely to determine if it meets particular criteria. *kontrolować, wizytować, przeprowadzać inspekcję*
- insulator** [N-COUNT-U11] An **insulator** is a material that does not allow electricity to flow through it easily. *izolator, materiał izolacyjny*
- intellectual property** [N-UNCOUNT-U8] **Intellectual property** is something that a person legally owns but is not necessarily a physical entity, such as an idea, a formula, or a design. *własność intelektualna*
- intensive quantity** [N-COUNT-U3] An **intensive quantity** is an amount that does not change based on the size of a system, and can be measured, but cannot be separated into distinct, countable units. *wielkość intensywna*
- internal force** [N-COUNT-U14] An **internal force** is a force that is generated inside of an object and pushes outwards. *siła wewnętrzna*
- intersection** [N-COUNT-U5] An **intersection** is an event that occurs in all groups in a sample. *część wspólna, przekrój zbiorów*
- iteration** [N-COUNT-U6] An **iteration** is the process of doing something again and again in order to improve it. Also each better version of something is called an **iteration**. *powtarzanie (iteracja); wersja*
- iterative** [ADJ-U6] If something is **iterative**, it is intended to be updated in order to be improved or become perfect. *wielokrotny, powtarzający się, iteracyjny*
- laminar flow** [N-UNCOUNT-U13] **Laminar flow** is a flowing state in which all of a fluid's layers move in the same direction and do not mix with each other. *przepływ laminarny/ uwarstwiony*
- lift** [N-UNCOUNT-U13] **Lift** is a force that acts in a direction that is across or perpendicular to the direction of flow. *wypór; siła nośna*
- liquid** [N-COUNT-U13] A **liquid** is a fluid with a well-defined volume that does not spread evenly to fill its container. *ciecz*
- lumber** [N-UNCOUNT-U10] **Lumber** is wood that is used to make buildings and other structures. *drewno (używane w budownictwie)*
- luster** [N-UNCOUNT-U11] **Luster** is a measure of how a substance reflects light. *połysk*
- magnitude** [N-COUNT-U12] A **magnitude** is the size or strength of something. *wielkość, siła, rozmiar*
- malleable** [ADJ-U11] If something is **malleable**, it has the ability to change shape when being compressed. *giętki, ciągliwy, kowalny, podatny*
- management** [N-UNCOUNT-U15] **Management** is the job of supervising a company or a part of a company. *zarządzanie, kierowanie*

- manufacturing** [N-UNCOUNT-U15] **Manufacturing** is the business of producing something, usually in a factory setting and on a large scale. *produkcja przemysłowa, wytwórczość*
- materials science** [N-UNCOUNT-U10] **Materials science** is the study of different forms of matter and how to create new materials. *materiałoznawstwo, inżynieria materiałowa*
- matter** [N-UNCOUNT-U2] **Matter** is anything that takes up space and has mass. *materia*
- median** [N-COUNT-U5] A **median** is a number that is in the middle of a set. *mediana (wartość średnia)*
- metal** [N-COUNT-U10] A **metal** is a building material that is hard and shiny. *metal*
- milestone** [N-COUNT-U8] A **milestone** is an important step towards achieving a goal. *kluczowy etap, kamień milowy (ważny punkt)*
- moment** [N-COUNT-U12] A **moment** is a measurement of how likely a force is to cause an object to twist or rotate. *moment (wielkość fizyczna)*
- monopoly** [N-COUNT-U8] A **monopoly** is a situation in which one person or group is the only person or group to have the ability to make or sell a particular product. *monopol, wyłączność*
- motion** [N-UNCOUNT-U2] **Motion** is the state of moving. *ruch*
- mutually exclusive** [ADJ-U5] If two occurrences or conditions are **mutually exclusive**, they cannot both occur or be true at the same time. *wzajemnie wykluczające się*
- narrow down** [V-T-U7] To **narrow something down** is to eliminate the less feasible or less desirable options. *zawęzić (coś)*
- natural** [ADJ-U11] If something is **natural**, it is not created by humans. *naturalny, pochodzący z natury*
- Newton's Laws** [N-PL-U2] **Newton's Laws** are a group of natural laws that describe the interaction between objects and forces and how this influences movement. *zasady dynamiki Newtona*
- observation** [N-COUNT-U9] An **observation** is a fact that is discovered by watching something closely. *obserwacja*
- ohm** [N-COUNT-U1] An **ohm** is a unit that measures electrical resistance. *om (jednostka oporu elektrycznego)*
- Ohm's Law** [N-UNCOUNT-U1] **Ohm's Law** is a law stating that electric current is proportional to voltage and inversely proportional to resistance. *prawo Ohma*
- open system** [N-COUNT-U3] An **open system** is a system that allows mass to enter and leave it. *układ termodynamicznie otwarty*
- ornamental** [ADJ-U8] If something is **ornamental**, it is intended to be decorative or pleasing to look at. *dekoracyjny, ozdobny, zdobniczy*
- outcome** [N-COUNT-U5] An **outcome** is a possible result of a process or experiment. *rezultat, wynik*
- outlet** [N-COUNT-U4] An **outlet** is a place of exit or release. *wylot, ujście; odpływ*
- output** [N-UNCOUNT-U3] An **output** is the amount of an extensive quantity that is removed from a system, but not destroyed, during a particular period of time. *produkcja, wydajność, uzysk; moc wyjściowa/ oddawana*
- particle** [N-COUNT-U12] A **particle** is an object with physical dimensions that are unimportant when determining the forces acting on the object. *cząsteczka, cząstka*
- patent** [N-COUNT-U8] A **patent** is an official document that gives an inventor or company the sole right to make a particular invention for a certain amount of time. *patent; opatentowany wynalazek*
- patent duration** [N-UNCOUNT-U8] **Patent duration** is the length of time that a patent protects an invention from being created by anyone besides the patent holder. *okres ważności patentu*
- physics** [N-UNCOUNT-U2] **Physics** is the study of matter and its properties. *fizyka*
- plastic** [N-COUNT-U10] **Plastic** is a lightweight substance made from chemicals that is used to create a wide range of products, including building materials. *plastik, tworzywo sztuczne*
- plastic behavior** [N-UNCOUNT-U14] **Plastic behavior** is the retention of structural changes after forces are removed from an object. *plastyczność, właściwości plastyczne*
- polymer** [N-COUNT-U10] A **polymer** is a strong substance that is often used to make plastics. *polimer (wielocząsteczkowa substancja chemiczna)*
- population** [N-COUNT-U5] A **population** is an entire group of factors or objects that are the subject of an experiment. *zbiorowość generalna; populacja*
- preliminary design** [N-COUNT-U7] A **preliminary design** is an initial, conceptual design that explores the general idea of a design. *projekt wstępny*



# Glossary

- pressure** [N-UNCOUNT-U4] **Pressure** is the amount of physical force imposed on an object by something that the object is in contact with. ciśnienie; nacisk
- probability** [N-UNCOUNT-U5] **Probability** is a numerical calculation that determines how likely a particular outcome is. prawdopodobieństwo
- problem** [N-COUNT-U9] A **problem** is a question or situation that needs to be answered or resolved. problem, zagadnienie, zadanie
- problem identification** [N-UNCOUNT-U6] **Problem identification** is the act of describing and analyzing problems at the first stage of the problem solving process. zdefiniowanie i opisanie problemu; rozpoznanie/ identyfikacja problemu
- problem solving** [N-UNCOUNT-U6] **Problem solving** is the ability to identify problems, think of solutions, and enact those solutions. rozwiązywanie problemów
- procedure** [N-COUNT-U6] A **procedure** is an established series of actions that determines how to do something. procedura
- professor** [N-COUNT-U15] A **professor** is a teacher at a university or college who typically has an advanced degree. nauczyciel akademicki, wykładowca, profesor
- proportional limit** [N-COUNT-U11] A **proportional limit** is a point at which force applied to a material becomes out of proportion to the deformation of that material. granica proporcjonalności
- public safety** [N-UNCOUNT-U15] **Public safety** is a field that is concerned with the health of the general population. bezpieczeństwo publiczne
- quantum field theory** [N-UNCOUNT-U2] **Quantum field theory** is a framework for understanding and talking about elementary particle physics, and combines elements from quantum mechanics and the theory of relativity. kwantowa teoria pola
- quantum mechanics** [N-UNCOUNT-U2] **Quantum mechanics** is the study of the motion of things on an atomic and subatomic scale, including atoms and their parts. mechanika kwantowa
- R&D** [ABBREV-U15] **R&D** (research and development) is a division of a company that focuses on gathering information and planning new products or technology. dział badań i rozwoju
- range** [N-COUNT-U5] A **range** is a set of things that belong to the same category but have different values. zakres, przedział, rozpiętość; rozstęp
- rate** [N-COUNT-U4] A **rate** is a measurement of frequency, distance, or quantity applied over another quantity, such as time. tempo, szybkość; współczynnik, wskaźnik
- rate process** [N-COUNT-U4] A **rate process** is the movement of an object or substance over a set period of time. zmiany zachodzące w danym systemie w jednostce czasu
- rebar** [N-UNCOUNT-U10] **Rebar**, or reinforcing bar, is a steel bar that is encased in concrete to make a structure stronger and able to support more weight. zbrojenie
- redefine** [V-T-U6] To **redefine** something is to change its function or meaning. przedefiniować
- relativistic mechanics** [N-UNCOUNT-U2] **Relativistic mechanics** is a field that applies the theory of relativity to the study of motion. mechanika relatywistyczna
- researcher** [N-COUNT-U15] A **researcher** is someone who gathers and assesses information. badacz, naukowiec, pracownik naukowy
- resistance** [N-UNCOUNT-U1] **Resistance** is the ability of something to obstruct the flow of electricity through it. opór (elektryczny)
- result** [N-COUNT-U9] A **result** is something that occurs because of something else. rezultat, wynik, skutek
- resultant** [N-COUNT-U12] A **resultant** is a cumulative measurement of all the forces acting on an object. (siła) wypadkowa
- revise** [V-T-U7] To **revise** something is to make changes to it based on feedback or observation. zmieniać, korygować, poprawiać
- rigid body** [N-COUNT-U12] A **rigid body** is an object with physical dimensions that are important when determining the forces acting on it. bryła sztywna
- sample** [N-COUNT-U5] A **sample** is a subset of a population that is representative of that population. próbka, próba
- sample space** [N-COUNT-U5] A **sample space** is the set of every possible outcome from an experiment. przestrzeń zdarzeń elementarnych

- scientific method** [N-COUNT-U9] The **scientific method** is a system of observation, measurement, and experimentation used to form and test hypotheses. *metoda naukowa*
- shear** [N-UNCOUNT-U14] **Shear** is a type of stress that applies force in opposite directions that are parallel to an object's surface, and often cuts objects in half. *naprężenie styczne ścinające*
- sketch** [N-COUNT-U7] A **sketch** is a rough drawing that is not usually a finished product. *szkic*
- solution** [N-COUNT-U6] A **solution** is a way of solving or fixing a problem. *rozwiązanie (problemu)*
- specification** [N-COUNT-U8] A **specification** is an exact requirement or outline for how something is made. *specyfikacja, opis techniczny*
- speed of light** [N-UNCOUNT-U2] The **speed of light** is the speed at which light travels in a vacuum, and is considered the greatest speed at which anything can travel. *prędkość światła*
- statistics** [N-COUNT-U5] **Statistics** are a collection of numbers that represent facts or provide information about a situation. *dane statystyczne, statystyka*
- steel** [N-UNCOUNT-U10] **Steel** is an extremely strong metal made from iron and carbon. *stal*
- strain** [N-UNCOUNT-U14] **Strain** is a measure of how much an object is deformed by stress. *odkształcenie*
- stress** [N-UNCOUNT-U14] **Stress** is a measure of force per unit area of an object. *naprężenie, nacisk*
- stretch** [V-T-U14] To **stretch** something is to make it longer, usually by pulling its two ends in opposite directions. *rozciągać, wyciągać*
- synthesis** [N-COUNT-U6] A **synthesis** is a combination of multiple items or elements. *synteza*
- synthetic** [ADJ-U11] If something is **synthetic**, it is created by humans. *syntetyczny*
- system** [N-COUNT-U3] A **system** is a set of connected things that work together to produce a result. *system, układ*
- technical** [ADJ-U15] If something is **technical**, it is related to technology. *techniczny*
- technology** [N-UNCOUNT-U8] **Technology** is machinery and equipment that is used to gain, improve, or transmit knowledge. *technologia*
- tensile** [ADJ-U11] If something is **tensile**, it can be stretched. *rozciągliwy*
- tension** [N-UNCOUNT-U14] **Tension** is a type of stress that elongates or stretches objects. *rozciąganie*
- testable** [ADJ-U9] If something is **testable**, it can be proven or disproven by performing an experiment. *sprawdzalny, możliwy do przetestowania*
- thrust** [N-UNCOUNT-U13] **Thrust** is a force that propels an object through a fluid against the drag. *siła posuwająca; ciąg*
- tool** [N-COUNT-U15] A **tool** is an object that is used to perform a particular action. *narzędzie*
- turbulent flow** [N-UNCOUNT-U13] **Turbulent flow** is a flowing state in which a fluid's layers move in different directions and mix together. *przepływ burzliwy/ turbulentny*
- union** [N-COUNT-U5] A **union** of events is a situation in which at least one event in a set occurs. *suma zbiorów*
- universal accounting equation** [N-UNCOUNT-U3] The **universal accounting equation** (UAE) is an equation that is used to measure changes in extensive quantities over particular periods of time. *równanie bilansowe, równanie księgowo*
- utility patent** [N-COUNT-U8] A **utility patent** is a patent that protects a useful object or process. *patent funkcjonalny/ użytkowy*
- vector** [N-COUNT-U12] A **vector** is a quantity that can change based on its magnitude and direction. *wektor*
- verify** [V-T-U7] To **verify** information is to make sure it is correct or valid. *weryfikować, sprawdzać, potwierdzać*
- viscosity** [N-UNCOUNT-U4] **Viscosity** is the resistance of a liquid that affects how fast it flows. *lepkość, tarcie wewnętrzne*
- volt** [N-COUNT-U1] A **volt** is a unit that measures the force of an electrical current. *wolt (skrót V)*
- voltage** [N-UNCOUNT-U1] **Voltage** is the amount of power in an electrical current. *napięcie (prądu)*
- watt** [N-COUNT-U1] A **watt** is a unit that measures electrical power based on amperage and voltage. *wat (skrót W)*
- wind tunnel** [N-COUNT-U13] A **wind tunnel** is an enclosed area through which air blows that is used to study the forces of objects moving through air. *tunel aerodynamiczny*
- witnessed** [ADJ-U8] If something is **witnessed**, it is signed in the presence of official observers who verify that it is authentic. *poświadczony, podpisany w obecności świadków*
- yield strength** [N-COUNT-U11] A **yield strength** is the point at which the force applied to a material is great enough that removal of the force will cause a reverse or opposite force. *(umowna) granica plastyczności*