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ENGLISH–SPANISH GLOSSARY OF TECHNICAL TERMINOLOGY IN INDUSTRIAL MECHANICS

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GLOSARIO

INGLÉS ESPAÑOL DE TERMINOLOGÍA TÉCNICA DE MECÁNICA INDUSTRIAL

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INTRODUCTION

This English-Spanish technical glossary of Industrial Mechanics is designed to serve as a fundamental tool for students and professionals in the Mechanical Industry career. It includes specialized terms, precise definitions, and contextualized examples that facilitate the understanding and correct use of technical vocabulary specific to this field. In addition to supporting effective learning, this resource enhances the educational quality of the institution by ensuring that students acquire strong linguistic and technical skills, better preparing them for success in the globalized industrial and manufacturing job market.

Let's get started!

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WELDING

SOLDADURA

By; Bing images , IA

1. BRASIVE

Definition: A material used for grinding or cleaning a hard surface.
Translation: Abrasivo
Example: "The worker used an abrasive disc to smooth the metal surface."

2. SURFACE FINISH

Definition: The final texture or appearance of a material's surface after processing.
Translation: Acabado superficial
Example: "The surface finish of the metal sheet must be free of scratches."

3. MILD STEEL

Definition: A type of low-carbon steel known for its malleability and ductility.
Translation: Acero dulce
Example: "Mild steel is commonly used in construction due to its strength and flexibility."

4. STAINLESS STEEL

Definition: A corrosion-resistant steel alloy containing chromium.
Translation: Acero inoxidable
Example: "Stainless steel is ideal for making kitchen utensils and medical tools."

5. ADHESION

Definition: The property of a material to stick or bond to another surface.
Translation: Adhesión
Example: "Proper adhesion of the welding material ensures a strong joint."

6. ALLOY

Definition: A mixture of metals designed to improve certain properties.
Translation: Aleación
Example: "Brass is an alloy of copper and zinc."

7. ALIGNMENT

Definition: The proper positioning of parts to ensure correct assembly.
Translation: Alineación
Example: "The alignment of the pipes is crucial for a successful weld."

8. WIRE FEEDER

Definition: A device that continuously supplies welding wire to the arc.
Translation: Alimentador de alambre
Example: "The wire feeder ensures a consistent flow of material in MIG welding."

9. SOLID WIRE

Definition: A single continuous strand of metal used in welding.
Translation: Alambre sólido
Example: "Solid wire is commonly used in gas metal arc welding (GMAW)."

10. FLUX-CORED WIRE

Definition: A type of welding wire with a hollow core filled with flux.
Translation: Alambre tubular
Example: "Flux-cored wire provides better penetration in outdoor welding."

11. HIGH FREQUENCY

Definition: An electrical technique used to initiate an arc without direct contact.
Translation: Alta frecuencia
Example: "High-frequency start is commonly used in TIG welding."

12. ALUMINUM

Definition: A lightweight, corrosion-resistant metal commonly used in manufacturing.
Translation: Aluminio
Example: "Aluminum is often welded using the TIG process."

13. THERMITE WELDING

Definition: A welding process that uses aluminum powder and metal oxides to generate heat.
Translation: Aluminotermia
Example: "Thermite welding is used to join railway tracks."

14. GRINDER

Definition: A power tool used for grinding, cutting, or polishing metal.
Translation: Amoladora
Example: "The worker used a grinder to smooth the weld seam."

15. AMPERAGE

Definition: The measure of electric current flow in an electrical circuit.
Translation: Amperaje
Example: "Adjusting the amperage is essential for achieving a good weld."

16. METALLOGRAPHIC ANALYSIS

Definition: The examination of a metal's structure using a microscope.
Translation: Análisis metalográfico
Example: "The metallographic analysis revealed microscopic cracks in the weld."

17. ANGLE

Definition: The space between two intersecting lines or surfaces.
Translation: Ángulo
Example: "The welding angle affects the penetration and bead shape."

18. TORCHES

Definition: The handheld tool used to direct heat or gas in welding processes.
Translation: Antorchas
Example: "The welder adjusted the torches for precise flame control."

19. SUBMERGED ARC WELDING

Definition: A welding process where the arc is covered by a granular flux.
Translation: Arco sumergido
Example: "Submerged arc welding is commonly used in shipbuilding."

20. WELDING ATMOSPHERE

Definition: The surrounding environment of a weld, including shielding gases.
Translation: Atmósfera de soldadura
Example: "A controlled welding atmosphere prevents contamination of the weld."

21. SELF-EXTINGUISHING

Definition: The ability of a material to extinguish itself when the flame source is removed.
Translation: Autoapagado
Example: "Some welding cables have a self-extinguishing coating."

22. WELD POOL

Definition: The pool of molten metal created during welding.
Translation: Baño de soldadura
Example: "The welder carefully controlled the weld pool to avoid defects."

23. BEVEL

Definition: An angled edge prepared for welding to improve penetration.
Translation: Bisel
Example: "The pipe ends were beveled before welding."

24. BEVELING

Definition: The process of cutting or grinding an edge to form a bevel.
Translation: Biselado
Example: "Beveling the plates ensures a stronger weld joint."

25. TUNGSTEN BALL

Definition: The rounded tip of a tungsten electrode used in TIG welding.
Translation: Bola de tungsten
Example: "A tungsten ball helps create a stable arc in AC welding."

26. EDGES

Definition: The outermost parts or limits of a material or weld joint.
Translation: Bordes
Example: "The edges of the metal plates must be clean before welding."

27. WELDING ARM

Definition: The mechanical arm used to hold and position welding tools.
Translation: Brazo de soldadura
Example: "The robotic welding arm increases precision in automated welding."

28. BUBBLES

Definition: Small gas pockets trapped inside a weld, causing defects.
Translation: Burbujas
Example: "The presence of bubbles weakens the weld joint."

29. WELD QUALITY

Definition: The degree to which a weld meets the required standards and specifications.
Translation: Calidad de soldadura
Example: "Proper technique and materials ensure high weld quality."

30. QUALIFICATION

Definition: The certification process to verify a welder's skills and expertise.
Translation: Calificación
Example: "The welder passed the qualification test for structural welding."

31. HEAT

Definition: The energy produced by welding to fuse materials.
Translation: Calor
Example: "Excessive heat can cause warping in the metal."

32. THERMAL CHANGE

Definition: The variation in temperature affecting a material or process.
Translation: Cambio térmico
Example: "Rapid thermal change can cause cracks in welded joints."

33. CHANNEL

Definition: A groove or passage in a material, often created for structural or fluid purposes.
Translation: Canal
Example: "The channel in the metal piece allows for better fluid circulation."

34. THERMAL LOAD

Definition: The amount of heat energy applied to a material or system.
Translation: Carga térmica
Example: "Excessive thermal load can lead to material warping."

35. HELMET

Definition: A protective headgear used to shield the welder's eyes and face.
Translation: Casco
Example: "The welder wore a helmet with an auto-darkening visor."

36. CARBONITRIDING

Definition: A surface hardening process using carbon and nitrogen.
Translation: Carbonitruración
Example: "Carbonitriding improves the wear resistance of steel parts."

37. BEAD GAP

Definition: A small space between materials to be welded, allowing better fusion.
Translation: Chafa
Example: "The bead gap must be controlled for proper penetration."

38. BEVEL

Definition: An angled cut or groove at the edge of a material.
Translation: Chaflán
Example: "The welder prepared a bevel before welding the steel plates."

39. SPARK LIGHTER

Definition: A tool used to ignite gas torches.
Translation: Chispero
Example: "The welder used a spark lighter to start the flame."

40. SHEET METAL

Definition: A thin, flat piece of metal used in manufacturing.
Translation: Chapa
Example: "The welder cut the sheet metal to the required dimensions."

41. THERMAL CYCLE

Definition: The sequence of heating and cooling a material undergoes.
Translation: Ciclo térmico
Example: "Controlling the thermal cycle reduces internal stress in the weld."

42. CODE

Definition: A set of standards and regulations for welding processes.
Translation: Código
Example: "The welder followed the industry code for structural welding."

43. COALESCENCE

Definition: The process of joining materials through fusion.
Translation: Coalescencia
Example: "Coalescence occurs when the molten metals blend seamlessly."

44. CHEMICAL COMPOSITION

Definition: The elements and compounds that make up a material.
Translation: Composición química
Example: "The chemical composition of the electrode affects the weld properties."

45. CONCAVITY

Definition: A surface or shape that curves inward.
Translation: Concavidad
Example: "Excessive concavity in the weld bead can indicate insufficient filler material."

46. THERMAL CONDUCTION

Definition: The transfer of heat through a material.
Translation: Conducción térmica
Example: "High thermal conduction ensures even heat distribution during welding."

47. CONSUMABLE

Definition: A material used up during welding, such as electrodes or filler wire.
Translation: Consumible
Example: "The welder replaced the consumable electrode after completing the joint."

48. CONTAMINATION

Definition: The presence of unwanted substances affecting weld quality.
Translation: Contaminación
Example: "Oil or rust on the metal surface can cause contamination in the weld."

49. CONVEXITY

Definition: A surface or shape that curves outward.
Translation: Convexidad
Example: "Excessive convexity in the weld bead may indicate improper heat settings."

50. ROOT BEAD

Definition: The first weld pass at the root of a joint.
Translation: Cordón de raíz
Example: "The welder ensured good penetration in the root bead."

51. FILLER BEAD

Definition: Additional weld passes used to build up the joint.
Translation: Cordón de relleno
Example: "The welder applied a filler bead to strengthen the joint."

52. WELD BEAD

Definition: The deposited metal that forms a visible line on the welded joint.
Translation: Cordón de soldadura
Example: "A smooth weld bead indicates proper welding technique."

53. INTERMITTENT BEAD

Definition: A series of short, spaced weld beads used to control heat input.
Translation: Cordón intermitente
Example: "The intermittent bead technique prevents excessive warping."

54. PLASMA CUTTING

Definition: A cutting process using a high-temperature plasma arc.
Translation: Corte plasma
Example: "Plasma cutting is efficient for cutting thick metal sheets."

55. SEAM

Definition: The joint between two welded metal pieces.
Translation: Costura
Example: "The weld seam must be inspected for possible defects."

56. CRACKLING

Definition: The sound produced when a material is heated or cools rapidly.
Translation: Crepitación
Example: "The crackling noise indicated rapid cooling of the weld."

57. CRYSTALLIZATION

Definition: The formation of a solid crystalline structure in a metal.
Translation: Cristalización
Example: "Proper cooling prevents unwanted crystallization in the weld."

58. CHROMING

Definition: The process of applying a thin layer of chromium for corrosion resistance.
Translation: Cromado
Example: "The metal part underwent chroming to enhance durability."

59. SQUARING

Definition: The process of ensuring materials are aligned at right angles.
Translation: Cuadratura
Example: "Squaring the plates ensures a precise fit before welding."

60. DEFECT

Definition: An imperfection in a welded joint.
Translation: Defecto
Example: "The inspector identified a defect in the weld bead."

61. DEFORMATION

Definition: The distortion of a material due to heat or mechanical stress.
Translation: Deformación
Example: "Excessive heat input can cause deformation in the metal."

62. WELD DEPOSIT

Definition: The added material from the welding process.
Translation: Depósito de soldadura
Example: "The weld deposit must be uniform to ensure joint strength."

63. GRINDING

Definition: The process of removing material from a surface using an abrasive tool.
Translation: Desbaste
Example: "The welder performed grinding to smooth the edges before welding."

64. WEAR

Definition: The gradual deterioration of a material due to friction or usage.
Translation: Desgaste
Example: "Excessive wear on the welding torch can affect the weld quality."

65. DEOXIDIZER

Definition: A substance that removes oxygen from a metal to prevent oxidation.
Translation: Desoxidante
Example: "The deoxidizer improves weld quality by reducing porosity."

66. CUTTING DISC

Definition: A circular abrasive tool used for cutting metal.
Translation: Disco de corte
Example: "The worker used a cutting disc to slice through the steel plate."

67. GRINDING DISC

Definition: A rotating abrasive tool used for surface finishing.
Translation: Disco de desbaste
Example: "A grinding disc helps remove excess material after welding."

68. DISCONTINUITY

Definition: An interruption in the uniformity of a welded joint.
Translation: Discontinuidad
Example: "The inspector detected a discontinuity in the weld bead."

69. EXPANSION

Definition: The increase in material volume due to heat.
Translation: Dilatación
Example: "Metal expansion must be considered when welding large structures."

70. THERMAL DISSIPATION

Definition: The process of heat being distributed or transferred away.
Translation: Disipación térmica
Example: "Proper thermal dissipation prevents overheating of the weld area."

71. BENDING

Definition: The process of deforming a material into a curved shape.
Translation: Doblado
Example: "The sheet metal underwent bending before welding."

72. DUCTILITY

Definition: The ability of a material to deform without breaking.
Translation: Ductilidad
Example: "High ductility makes a metal more suitable for welding."

73. HARDNESS

Definition: The resistance of a material to deformation or penetration.
Translation: Dureza
Example: "The hardness of the weld affects its durability."

74. WELDING EFFICIENCY

Definition: The ratio of deposited metal to the total consumed material.
Translation: Eficiencia de soldadura
Example: "High welding efficiency reduces material waste."

75. TUNGSTEN ELECTRODE

Definition: A non-consumable electrode used in TIG welding.
Translation: Electrodo de tungsten
Example: "A tungsten electrode is essential for precision welding."

76. ELECTRODES

Definition: Conductive rods used to establish an electric arc in welding.
Translation: Electrodos
Example: "The welder used coated electrodes for shielded metal arc welding."

77. DEEP DRAWING

Definition: A forming process that shapes sheet metal by stretching it into a die.
Translation: Embutición
Example: "Deep drawing is commonly used in automotive manufacturing."

78. TENSILE TEST

Definition: A test to determine a material's strength under tension.
Translation: Ensayo de tracción
Example: "The tensile test revealed the maximum load the welded joint could withstand."

79. MECHANICAL TEST

Definition: A procedure used to evaluate the mechanical properties of a material.
Translation: Ensayo mecánico
Example: "The mechanical test confirmed the weld's resistance to stress.

80. EROSION

Definition: The gradual removal of material due to environmental factors.
Translation: Erosión
Example: "Excessive erosion weakens the structural integrity of metal."

81. SLAG

Definition: A byproduct of welding, consisting of solidified impurities.
Translation: Escoria
Example: "The welder removed the slag to inspect the weld bead."

82. MAGNETIC SQUARE

Definition: A tool used to hold metal pieces at precise angles.
Translation: Escuadra magnética
Example: "The magnetic square helped keep the metal aligned during welding."

83. SPACERS

Definition: Small components used to maintain a fixed gap between materials.
Translation: Espaciadores
Example: "Spacers ensure uniform spacing between welded parts."

84. ARC STABILITY

Definition: The consistency of an electric arc during welding.
Translation: Estabilidad del arco
Example: "Proper voltage settings improve arc stability."

85. STANDARD

Definition: A set of technical guidelines ensuring quality and safety.
Translation: Estándar
Example: "The welding process followed international standards."

86. CRYSTALLINE STRUCTURE

Definition: The arrangement of atoms in a solid metal.
Translation: Estructura cristalina
Example: "The crystalline structure of the weld affects its mechanical properties."

87. NECKING

Definition: The reduction in cross-sectional area due to stretching.
Translation: Estricción
Example: "Necking indicates the point of failure in tensile testing."

88. JOINT FAILURE

Definition: The breaking or separation of a welded joint.
Translation: Falla de union
Example: "Joint failure can occur due to poor penetration or weak fusion."

89. LACK OF ADHESION

Definition: Poor bonding between the weld and base material.
Translation: Falta de adherencia
Example: "Contaminants on the surface can cause a lack of adhesion in the weld."

90. THERMAL FATIGUE

Definition: The weakening of a material due to repeated heating and cooling.
Translation: Fatiga térmica
Example: "Thermal fatigue cracks can form in welded components exposed to high temperatures."

91. FERROUS METALS

Definition: Metals containing iron, such as steel and cast iron.
Translation: Ferrosos
Example: "Ferrous metals are commonly used in structural welding."

92. FIXATION

Definition: The process of securing parts before welding.
Translation: Fijación
Example: "Proper fixation ensures alignment and prevents movement during welding."

93. FILLET

Definition: A type of weld that joins two surfaces at an angle.
Translation: Filete
Example: "The welder applied a fillet weld to reinforce the corner joint."

94. JOINT

Definition: The area where two or more pieces of metal are welded together.
Translation: Junta
Example: "A strong joint ensures the durability of the welded structure."

95. ROLLING

Definition: A metalworking process that reduces material thickness by compression.
Translation: Laminación
Example: "The steel sheet underwent rolling before being welded."

96. APRON

Definition: A protective garment worn by welders to prevent burns and injuries.
Translation: Mandil
Example: "The welder wore a leather apron for safety."

97. GROUND CLAMP

Definition: A device that connects the welding machine to the workpiece to complete the circuit.
Translation: Masa
Example: "A secure ground clamp ensures a stable welding arc."

98. MASK

Definition: A protective covering for the face and respiratory system.
Translation: Mascarilla
Example: "The welder used a mask to protect against fumes."

99. MARTENSITE

Definition: A hard, brittle structure formed in steel when rapidly cooled.
Translation: Martensita
Example: "Martensite increases the hardness of welded steel."

100. BACKING MATERIAL

Definition: A material placed behind the weld to support and prevent defects.
Translation: Material de respaldo
Example: "The welder used a ceramic backing material."

101. METAL MATRIX

Definition: The continuous phase in composite materials that holds reinforcement.
Translation: Matriz metálica
Example: "A metal matrix improves the strength of composite materials."

102. MACHINABILITY

Definition: The ease with which a material can be cut or shaped.
Translation: Maquinabilidad
Example: "High machinability reduces tool wear and enhances precision."

103. ENVIRONMENT

Definition: The surrounding conditions, including air quality and temperature.
Translation: Medio ambiente
Example: "Welding fumes can impact the environment if not properly controlled."

104. BASE METAL

Definition: The primary material being welded.
Translation: Metal base
Example: "The welder preheated the base metal to avoid cracking."

105. FILLER METAL

Definition: The material added to a weld to create a joint.
Translation: Metal de aporte
Example: "The filler metal should match the base metal composition."

106. MICROSTRUCTURE

Definition: The internal structure of a metal, visible under a microscope.
Translation: Microestructura
Example: "The microstructure affects the weld's mechanical properties."

107. MICROCASTING

Definition: A precise casting technique used for small metal parts.
Translation: Microfusión
Example: "Microcasting is commonly used in jewelry and aerospace industries."

108. MOTOR

Definition: A machine that converts electrical energy into mechanical motion.
Translation: Motor
Example: "The welding machine's motor needs regular maintenance."

109. STANDARD

Definition: A set of guidelines ensuring quality and safety in welding.
Translation: Norma
Example: "The welding process followed international standards."

110. OXIDATION

Definition: A chemical reaction between metal and oxygen, leading to rust.
Translation: Oxidación
Example: "Stainless steel resists oxidation due to its chromium content."

111. OXYACETYLENE

Definition: A welding process that uses oxygen and acetylene gas.
Translation: Oxiacetilénica
Example: "Oxyacetylene welding is commonly used for cutting metal."

112. PASS

Definition: A single application of a weld bead in a joint.
Translation: Pasada
Example: "The welder applied multiple passes for a strong bond."

113. PASSIVATION

Definition: A process that makes metal resistant to corrosion.
Translation: Pasivación
Example: "Stainless steel undergoes passivation to maintain durability."

114. PENETRATION

Definition: The depth to which the weld fuses into the base metal.
Translation: Penetración
Example: "Proper penetration ensures a strong weld joint."

115. PEARLITE

Definition: A layered microstructure found in steel and cast iron.
Translation: Perlita
Example: "Pearlite contributes to the toughness of steel."

116. CLAMP

Definition: A tool used to hold metal pieces in place.
Translation: Pinza
Example: "A clamp ensures proper alignment before welding."

117. CHIPPING HAMMER

Definition: A tool used to remove slag from a weld.
Translation: Piqueta
Example: "The welder used a chipping hammer to clean the weld bead."

118. PLAN

Definition: A detailed diagram or layout for welding operations.
Translation: Plano
Example: "The welder followed the engineering plan for precise assembly."

119. PRESSURE PLATE

Definition: A component that applies force to hold parts together.
Translation: Plato de presión
Example: "The pressure plate ensures proper compression during welding."

120. GAITERS

Definition: Protective coverings worn over the legs to shield from sparks.
Translation: Polainas
Example: "The welder wore gaiters for extra protection."

121. POLARITY

Definition: The direction of electrical flow in a welding circuit.
Translation: Polaridad
Example: "The correct polarity is essential for proper arc stability."

122. PORE

Definition: A small cavity or hole in a weld caused by trapped gas.
Translation: Poro
Example: "Proper shielding gas prevents pore formation in the weld."

123. ELECTRODE HOLDER

Definition: A device used to grip the electrode in manual welding.
Translation: Porta electrode
Example: "The welder replaced the worn-out electrode holder."

124. POSITIONERS

Definition: Devices that hold and rotate workpieces for optimal welding angles.
Translation: Posicionadores
Example: "Welding positioners improve precision and efficiency."

125. DIMENSIONAL ACCURACY

Definition: The degree to which a manufactured part matches specified dimensions.
Translation: Precisión dimensional
Example: "High dimensional accuracy ensures a perfect fit between welded components."

126. PREHEATING

Definition: The process of heating a material before welding to reduce thermal stress.
Translation: Precalentamiento
Example: "Preheating prevents cracking in thick steel plates."

127. TEST SPECIMEN

Definition: A sample used for mechanical or metallurgical testing.
Translation: Probeta
Example: "The test specimen was analyzed for tensile strength."

128. MECHANICAL PROPERTIES

Definition: The characteristics of a material that define its behavior under force.
Translation: Propiedades mecánicas
Example: "The mechanical properties of steel affect its weldability."

129. HEARING PROTECTOR

Definition: A device used to reduce noise exposure.
Translation: Protector auditivo
Example: "The welder wore a hearing protector to minimize noise damage."

130. HEAD PROTECTOR

Definition: Safety equipment that shields the head from injuries.
Translation: Protector de cabeza
Example: "A head protector is essential in welding workshops."

131. TESTING

Definition: The evaluation of materials and welds to ensure quality.
Translation: Pruebas
Example: "Non-destructive testing helps detect weld defects."

132. TACKING

Definition: Temporary welding points used to hold pieces before final welding.
Translation: Punteado
Example: "Tacking prevents movement during the welding process."

133. GROOVE

Definition: A channel cut into a material to prepare for welding.
Translation: Ranura
Example: "A deep groove improves weld penetration."

134. SHRINKAGE CAVITY

Definition: A void in the weld caused by material contraction.
Translation: Rechupe
Example: "Proper cooling techniques prevent shrinkage cavities."

135. CURRENT RECTIFIER

Definition: A device that converts alternating current (AC) to direct current (DC).
Translation: Rectificador de corriente
Example: "A rectifier provides a stable power source for welding."

136. RESISTANCE

Definition: The ability of a material to withstand force or heat.
Translation: Resistencia
Example: "The weld must have high resistance to fatigue."

137. BACKING

Definition: A material used to support the weld and prevent defects.
Translation: Respaldos
Example: "A copper backing was used for improved weld quality."

138. COATING

Definition: A caring layer applied to weld electrodes or metal surfaces.
Translation: Revestimiento
Example: "The electrode coating stabilizes the welding arc."

139. ROLLERS

Definition: Cylindrical components that help move or shape materials.
Translation: Rodillos
Example: "Rollers assist in positioning metal sheets before welding."

140. SPATTER

Definition: Small droplets of molten metal expelled during welding.
Translation: Salpicadura
Example: "Anti-spatter spray reduces spatter adhesion."

141. WELDING SYMBOLS

Definition: Standardized notations used to specify welding requirements.
Translation: Simbología
Example: "The blueprint included detailed welding symbols."

142. OVERHEAD WELDING

Definition: A welding position where the workpiece is above the welder.
Translation: Sobre cabeza
Example: "Overhead welding requires precise control to prevent dripping."

143. UNDERCUT

Definition: A groove melted into the base metal along the weld toe.
Translation: Socavadura
Example: "Excessive heat can cause undercut in the weld."

144. MULTIPROCESS WELDER

Definition: A welding machine capable of performing multiple welding processes.
Translation: Soldadora multiproceso
Example: "A multiprocess welder is versatile for different applications."

145. WELDING

Definition: The process of joining materials using heat or pressure.
Translation: Soldadura
Example: "Proper welding techniques ensure strong metal bonds."

146. UNDERWATER WELDING

Definition: A welding technique performed underwater, typically for repairs.
Translation: Soldadura bajo el agua
Example: "Underwater welding is crucial for maintaining ship hulls."

147. SWEEP WELDING

Definition: A welding process where the torch moves in a sweeping motion.
Translation: Soldadura por barrido
Example: "Sweep welding is used for large surface coverage."

148. FRICTION WELDING

Definition: A process that joins metals using heat generated by friction.
Translation: Soldadura por fricción
Example: "Friction welding is commonly used in aerospace applications."

149. ROBOTIC WELDING

Definition: The use of automated machines to perform welding operations.
Translation: Soldadura robótica
Example: "Robotic welding increases production efficiency."

150. TEMPERATURE

Definition: The degree of heat present in a substance or environment.
Translation: Temperatura
Example: "The temperature must be controlled during welding to avoid defects."

151. TENSION

Definition: The force exerted on a material that can cause stretching or breaking.
Translation: Tensión
Example: "Welded joints must withstand high tension in structures."

152. HARDENABILITY

Definition: The ability of a metal to be hardened through heat treatment.
Translation: Templabilidad
Example: "Steel's hardenability determines its welding properties."

153. TRANSFORMER

Definition: A device that adjusts voltage levels in welding machines.
Translation: Transformador
Example: "The transformer regulates power for stable arc welding."

154. OVERLAP

Definition: A welding defect where molten metal extends beyond the joint.
Translation: Traslape
Example: "Overlap occurs due to excessive filler metal deposition."

155. VALVES

Definition: Devices that control gas or liquid flow in welding equipment.
Translation: Válvulas
Example: "The welder adjusted the gas valves for optimal shielding."

156. COMBUSTION FUMES

Definition: Gases released during the burning of fuel or welding materials.
Translation: Vapores de combustion
Example: "Proper ventilation reduces exposure to combustion fumes."

157. ROD

Definition: A thin straight bar, often used as a filler material in welding.
Translation: Varilla
Example: "The welder used a brass rod for brazing."

158. VERTICAL WELDING

Definition: A welding position where the weld is made along a vertical surface.
Translation: Soldadura vertical
Example: "Vertical welding requires controlled heat."

159. VOLTAGE

Definition: The electrical potential difference in a welding circuit.
Translation: Voltaje
Example: "Adjusting the voltage ensures proper arc stability."

160. HEAT-AFFECTED ZONE (HAZ)

Definition: The area surrounding a weld that undergoes structural changes due to heat.
Translation: Zona afectada por el calor
Example: "The heat-affected zone must be monitored to prevent cracking."

161. WELDING

Definition: Join metal pieces or parts by heating surfaces to the point of melting using a blowtorch, electric arc, or other means.
Translation: Soldadura
Example: "The truck had spikes welded to the back."

162. FUSION

Definition: The process or result of joining two or more things together to form a single entity.
Translation: Fusión
Example: "Nuclear fusion occurs in the sun."

163. METAL

Definition: A solid material that is typically hard, shiny, malleable, fusible, and ductile, with good electrical and thermal conductivity.
Translation: Metal
Example: "Iron is a common metal used in construction."

164. GAS

Definition: An air-like fluid substance that expands freely to fill space available of its quantity.
Translation: Gas
Example: "The gas leaked from the pipeline, causing a hazard."

165. INERT

Definition: Lacking the ability or strength to move; chemically inactive.
Translation: Inerte
Example: "Helium is an inert gas often used in balloons."

166. ACTIVE

Definition: Engaging or ready to engage in physically energetic pursuits; chemically reactive.
Translation: Activo
Example: "Sodium is an active metal that reacts vigorously with water."

167. ELECTRODE HOLDER

Definition: A device used to hold the electrode for welding purposes.
Translation: Porta electrodos
Example: "The welder adjusted the electrode holder before starting his work."

168. GROUND CLAMP

Definition: A device that provides a grounding connection in welding.
Translation: Masa
Example: "The ground clamp ensures a stable electrical connection during welding."

169. ARC

Definition: A luminous discharge of electricity across a gap in a circuit or between electrodes.
Translation: Arco
Example: "The welding arc was bright and required protective eyewear."

170. CONSUMABLE

Definition: A material that is used up and needs to be replaced regularly, especially in a manufacturing process.
Translation: Consumible
Example: "Welding rods are consumables that need frequent replacement."

171. TUNGSTEN

Definition: A hard, steel-gray metal used in making electric light filaments and other high-temperature applications.
Translation: Tungsteno
Example: "Tungsten electrodes are used in TIG welding for their high melting point."

172. BLOWTORCH

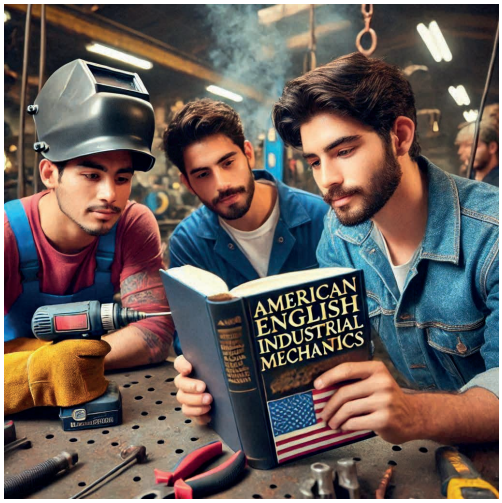
Definition: A device producing a hot flame that is directed onto a surface, used especially for soldering and welding.
Translation: Soplete
Example: "The plumber used a blowtorch to solder the pipes."

173. ELECTRODE

Definition: A conductor through which electricity enters or leaves an object, substance, or region.
Translation: Electrodo
Example: "The electrodes must be replaced regularly to ensure effective welding."

METAL STRUCTURES

ESTRUCTURAS METÁLICAS



By: Bing images, IA

174. STRUCTURAL STEEL

Definition: A category of steel used for making construction materials.
Translation: Acero structural
Example: "Structural steel is commonly used in high-rise buildings and bridges."

175. WARPING

Definition: The distortion or bending of a structure due to stress or temperature changes.
Translation: Alabeo
Example: "Excessive heat can cause warping in steel beams."

176. LOAD ANALYSIS

Definition: The process of determining the forces acting on a structure.
Translation: Análisis de cargas
Example: "Engineers perform load analysis before constructing a bridge."

177. ANCHORAGE

Definition: A fastening element that secures structural components in place.
Translation: Anclaje
Example: "The anchorage system ensures stability in seismic zones."

178. BRACING

Definition: Structural elements used to resist lateral forces and improve stability.
Translation: Arriostramiento
Example: "Bracing is essential for preventing structural collapse during earthquakes."

179. TRUSS

Definition: A framework arranged in triangular shapes for support.
Translation: Armadura
Example: "The roof truss provides stability to the entire structure."

180. REINFORCEMENT BAR

Definition: A steel bar used to strengthen concrete structures.
Translation: Barra de refuerzo
Example: "Reinforcement bars increase the tensile strength of concrete."

181. COLUMN BASE

Definition: The foundation section where a column is anchored.
Translation: Base de columna
Example: "The column base must be designed to distribute loads efficiently."

182. AXIAL LOAD

Definition: A force applied along the axis of a structural member.
Translation: Carga axial
Example: "Axial loads are common in columns supporting multi-story buildings."

183. WIND LOAD

Definition: The force exerted by wind on a structure.
Translation: Carga de viento
Example: "Skyscrapers require careful wind load calculations."

184. DEAD LOAD

Definition: The weight of the structure itself, including walls, floors, and permanent fixtures.
Translation: Carga muerta
Example: "Dead loads remain constant over the lifespan of a building."

185. LIVE LOAD

Definition: The weight of movable objects like furniture, people, and equipment.
Translation: Carga viva
Example: "Engineers consider live loads when designing floors and bridges."

186. THERMAL LOAD

Definition: The stress caused by temperature variations in a structure.
Translation: Carga térmica
Example: "Thermal loads can lead to material expansion and contraction."

187. FOUNDATION

Definition: The base structure that transfers building loads to the ground.
Translation: Cimentación
Example: "A strong foundation prevents structural settlement over time."

188. STRUCTURAL COLLAPSE

Definition: The sudden failure of a building or structure.
Translation: Colapso structural
Example: "Poor design and overloading can cause structural collapse."

189. COLUMN

Definition: A vertical structural element that supports loads.
Translation: Columna
Example: "Steel columns provide essential support in high-rise buildings."

190. BOLTED CONNECTION

Definition: A joint secured by bolts to connect structural elements.
Translation: Conexión empernada
Example: "Bolted connections allow for easier disassembly and maintenance."

191. WELDED CONNECTION

Definition: A permanent joint created by welding two structural elements.
Translation: Conexión soldada
Example: "Welded connections are stronger but require skilled labor."

192. METAL CONSTRUCTION

Definition: The process of building structures using metal components.
Translation: Construcción metálica
Example: "Metal construction is widely used in industrial facilities."

193. CROSS-BRACING

Definition: Diagonal supports used to reinforce a structure against lateral forces.
Translation: Contraventeo
Example: "Cross-bracing enhances a building's resistance to wind and seismic activity."

194. CORROSION

Definition: The gradual destruction of materials, usually metals, due to chemical reactions with the environment.
Translation: Corrosión
Example: "Stainless steel is often used in construction to prevent corrosion."

195. CUTTING AND BENDING

Definition: The process of shaping metal sheets or profiles by cutting and folding.
Translation: Corte y plegado
Example: "Cutting and bending techniques are essential in metal fabrication."

196. METAL ROOFING

Definition: A protective covering made of metal sheets for buildings.
Translation: Cubierta metálica
Example: "Metal roofing is durable and resistant to harsh weather conditions."

197. PROFILE BENDING

Definition: The process of curving metal profiles without breaking them.
Translation: Curvado de perfiles
Example: "Profile bending is commonly used in the construction of arches."

198. ELASTIC DEFORMATION

Definition: Temporary shape change in a material under stress, which is reversible removed.
Translation: Deformación elástica
Example: "Elastic deformation allows structures to absorb minor loads without permanent damage."

199. PLASTIC DEFORMATION

Definition: A permanent change in shape that occurs when a material is subjected to excessive stress.
Translation: Deformación plástica
Example: "Plastic deformation can lead to structural failure if not controlled."

200. ENERGY DISSIPATOR

Definition: A device that absorbs and reduces energy in structures, often used for seismic protection.
Translation: Disipador de energía
Example: "Energy dissipators help buildings withstand earthquakes."

201. DUCTILITY

Definition: The ability of a material to deform under tensile stress without breaking.
Translation: Ductilidad
Example: "High ductility allows steel structures to bend rather than break under load."

202. BEAM SPLICING

Definition: The process of joining two beams to extend their length or enhance their strength.
Translation: Empalme de vigas
Example: "Beam splicing is common in bridge construction."

203. TENSILE TEST

Definition: A mechanical test that measures a material's resistance to tension.
Translation: Ensayo de tracción
Example: "Engineers perform tensile tests to determine the strength of construction materials."

204. MECHANICAL TEST

Definition: A series of tests conducted to assess a material's mechanical properties.
Translation: Ensayo mecánico
Example: "Mechanical tests help ensure materials meet structural safety standards."

205. SHEAR STRESS

Definition: A force that causes layers of material to slide against each other.
Translation: Esfuerzo cortante
Example: "Shear stress is critical in designing bolted and welded joints."

206. BENDING STRESS

Definition: The internal stress induced in a material when subjected to bending.
Translation: Esfuerzo de flexion
Example: "Beams experience bending stress under applied loads."

207. NORMAL STRESS

Definition: A stress that acts perpendicular to a surface, causing tension or compression.
Translation: Esfuerzo normal
Example: "Columns must be designed to withstand normal stress from vertical loads."

208. THERMAL STRESS

Definition: Stress developed in materials due to temperature variations.
Translation: Esfuerzo térmico
Example: "Bridges include expansion joints to mitigate thermal stress."

209. STRUCTURAL STABILITY

Definition: The ability of a structure to maintain equilibrium under applied loads.
Translation: Estabilidad structural
Example: "Structural stability is essential in earthquake-prone regions."

210. STEEL STRUCTURE

Definition: A construction framework composed mainly of steel components.
Translation: Estructura de acero
Example: "Steel structures are widely used in skyscrapers and industrial buildings."

211. LATTICE STRUCTURE

Definition: A framework consisting of interconnected steel elements forming a grid pattern.
Translation: Estructura reticulada
Example: "Lattice structures are often used in transmission towers."

212. SAFETY FACTOR

Definition: The ratio between the maximum load a structure can bear and the expected load.
Translation: Factor de seguridad
Example: "Engineers design structures with a high safety factor to prevent failures."

213. FATIGUE RESISTANCE

Definition: The ability of a material to withstand repeated loading cycles without failing.
Translation: Fatigabilidad
Example: "Bridges and aircraft components require high fatigue resistance."

214. BENDING

Definition: The deformation of a structural element due to an applied moment or load.
Translation: Flexión
Example: "The bridge beams experience significant bending under heavy traffic."

215. SHEAR FORCE

Definition: A force that causes one part of a material to slide past another.
Translation: Fuerza cortante
Example: "The shear force in a beam increases near the supports."

216. IMPACT FORCE

Definition: A high-intensity force applied suddenly to a structure.
Translation: Fuerza de impacto
Example: "Protective barriers absorb impact force to prevent structural damage."

217. GALVANIZATION

Definition: The process of coating metal with zinc to prevent corrosion.
Translation: Galvanizado
Example: "Galvanization extends the lifespan of steel structures."

218. STRUCTURAL GEOMETRY

Definition: The shape and arrangement of elements in a structure.
Translation: Geometría structural
Example: "Proper structural geometry ensures stability and load distribution."

219. STRUCTURAL INSPECTION

Definition: The evaluation of a structure's condition to ensure safety and compliance.
Translation: Inspección structural
Example: "Regular structural inspections help prevent failures."

220. LIFTING

Definition: The process of hoisting heavy loads using cranes or lifting equipment.
Translation: Izaje
Example: "Safe lifting techniques are crucial in construction sites."

221. EXPANSION JOINT

Definition: A gap in a structure that allows for movement due to temperature changes.
Translation: Junta de expansion
Example: "Expansion joints prevent cracking in concrete bridges."

222. METAL SHEET

Definition: A thin, flat piece of metal used in construction.
Translation: Lámina metálica
Example: "Metal sheets are used in roofing and siding applications."

223. LOSACERO (STEEL DECK)

Definition: A type of corrugated steel sheet used in composite floor systems.
Translation: Losacero
Example: "Losacero increases the strength and durability of concrete floors."

224. STRUCTURAL MAINTENANCE

Definition: The upkeep of a structure to ensure its long-term stability.
Translation: Mantenimiento structural
Example: "Regular structural maintenance prevents deterioration."

225. RIGID FRAME

Definition: A structural system designed to resist bending and shear forces.
Translation: Marco rígido
Example: "Rigid frames are commonly used in industrial buildings."

226. METROLOGY

Definition: The science of measurement applied to construction and engineering.
Translation: Metrología
Example: "Metrology ensures precision in structural component fabrication."

227. MODULUS OF ELASTICITY

Definition: A measure of a material's ability to deform elastically under stress.
Translation: Módulo de elasticidad
Example: "Steel has a high modulus of elasticity, making it ideal for construction."

228. MOMENT OF INERTIA

Definition: A measure of an object's resistance to rotational motion.
Translation: Momento de inercia
Example: "Beams with high moments of inertia are more resistant to bending."

229. RIB

Definition: A reinforcing structural element that provides additional strength.
Translation: Nervadura
Example: "Ribs are added to concrete slabs for extra support."

230. STRUCTURAL NODE

Definition: A point where structural members connect.
Translation: Nodo structural
Example: "The analysis of structural nodes is essential in frame design."

231. BUCKLING

Definition: The sudden failure of a structural element under compressive stress.
Translation: Pandeo
Example: "Columns must be designed to prevent buckling."

232. STRUCTURAL PROFILE

Definition: A preformed metal section used in construction.
Translation: Perfil structural
Example: "Structural profiles are used to build frameworks and supports."

233. STRUCTURAL BOLT

Definition: A heavy-duty bolt used to connect structural elements.
Translation: Perno structural
Example: "Structural bolts ensure strong and stable connections in steel buildings."

234. ANTI-CORROSION PAINT

Definition: A protective coating that prevents metal from rusting.
Translation: Pintura anticorrosive
Example: "Anti-corrosion paint is applied to exposed steel structures."

235. BASE PLATE

Definition: A steel plate used to distribute loads at the base of columns.
Translation: Placa base
Example: "Base plates help anchor steel columns to foundations."

236. CONNECTION PLATE

Definition: A metal plate used to join two structural elements.
Translation: Placa de conexión
Example: "Connection plates are used in bolted and welded joints."

237. STRUCTURAL FOLD

Definition: A bending feature in metal sheets to enhance strength.
Translation: Pliegue structural
Example: "Structural folds increase the stiffness of sheet metal components."

238. PORTAL FRAME

Definition: A structural system consisting of columns and beams with rigid joints.
Translation: Pórtico
Example: "Portal frames are widely used in warehouses and factories."

239. PRE-SIZING

Definition: The preliminary estimation of structural member dimensions.
Translation: Predimensionado
Example: "Pre-sizing helps engineers determine material requirements."

240. PRESTRESSING

Definition: A technique that applies pre-tension to concrete or steel for added strength.
Translation: Presfuerzo
Example: "Prestressing is commonly used in bridge construction."

241. FATIGUE TEST

Definition: A test that measures a material's ability to withstand repeated loading.
Translation: Prueba de fatiga
Example: "Fatigue tests help determine the lifespan of structural components."

242. STRUT

Definition: A structural element used to resist compressive forces.
Translation: Puntal
Example: "Struts provide additional support in roof structures."

243. METAL COATING

Definition: A protective layer applied to metal surfaces.
Translation: Recubrimiento metálico
Example: "Metal coatings prevent corrosion and improve aesthetics."

244. STRUCTURAL REINFORCEMENT

Definition: The process of strengthening a structure to improve its load-bearing capacity.
Translation: Refuerzo structural
Example: "The engineers added structural reinforcement to the building to withstand higher loads."

245. STRUCTURAL PERFORMANCE

Definition: The ability of a structure to function as intended under applied loads.
Translation: Rendimiento structural
Example: "The structural performance of the bridge was evaluated after the earthquake."

246. FATIGUE RESISTANCE

Definition: The ability of a material to withstand repeated loading without failure.
Translation: Resistencia a la fatiga
Example: "Steel beams must have high fatigue resistance for long-term durability."

247. BENDING RESISTANCE

Definition: The ability of a structural element to resist bending forces.
Translation: Resistencia a la flexion
Example: "The concrete slab was tested for its bending resistance under heavy loads."

248. STRUCTURAL STIFFNESS

Definition: The ability of a structure to resist deformation under load.
Translation: Rigidez structural
Example: "The building's structural stiffness was increased by adding diagonal bracing."

249. SEISMIC RESISTANCE

Definition: The ability of a structure to withstand seismic forces during an earthquake.
Translation: Sismo Resistencia
Example: "The skyscraper was designed with seismic resistance in mind to prevent collapse."

250. PENETRATION WELDING

Definition: A welding technique that ensures deep fusion between metal parts.
Translation: Soldadura de penetración
Example: "Penetration welding is essential for structural connections in bridges and buildings."

251. ALLOWABLE STRESS

Definition: The maximum stress a material can withstand safely under specific conditions.
Translation: Tensión admissible
Example: "The allowable stress for the steel column was calculated to ensure safety."

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