



## FILL IN THE GAPS (2.0p) ..... = Grammar; ..... = Word Formation/Voc

Aluminium is one ..... (DE LOS METALES MÁS USADOS) in ..... (INGENIERIA). But ..... (ES DEMASIADO) reactive to occur naturally ..... (COMO METAL PURO). ..... (EN SU LUGAR), ..... (SE ENCUENTRA= FIND) combined in about 270 different minerals. Aluminium is a ..... (SILVER= adj) white metal with many properties. With an electrical conductivity ..... (MAYOR QUE LA DEL COBRE) and ..... (UNA DENSIDAD MUCHO MAS BAJA), it is used for electrical transmission lines. Pure aluminium is soft and ..... (QUEBRADIZO), but can be ..... (TOUGH= vb) with ..... (PEQUEÑAS CANTIDADES) of copper, magnesium and silicon.

Based ..... (SUS) chemical properties, aluminium is not be very useful. .... (A DIFERENCIA DEL HIERRO) it is ..... (MAS ACTIVO QUE EL HIERRO), ..... (QUE) has a reduction potential of -0.44 volt. .... (A PESAR DE ESTO), the product of its corrosion ..... (STRONG=adv) adheres to the metal's surface, protecting it from further ..... (CORRODE= vb). The oxide coating ..... (MAKE=shortened relative clause) on aluminium can be improved using a process..... (EN EL QUE) aluminium metal is oxidized; after this process, its coating ..... (RESULTA MAS GRUESO). Aluminium ..... - (RECYCLE=Noun) saves ..... (EL DOBLE DE ENERGIA) as needed in refining. .... (PUESTO QUE) it is in the metallic state, all the energy ..... (SPEND = shortened relative clause) in purifying the ore is saved ..... (CUANDO SE RECICLA).

## READING COMPREHENSION (1.5p)

### Alloys

An important activity of materials scientists is that (1) of alloy development. Ordinarily metal castings exhibit very little toughness (2) and *they are likely to crack* (3). by catastrophic failure. Since (4) the integrity of an automobile would be limited by having relatively brittle (5) body components new alloys have been developed that (6) provide (7) a better material. Other advances brought about by materials scientists have led (8) to a greater acceptance of aluminium in cars. By alloying, aluminium can be made as strong as steel. Yet (9) its elastic modulus will be one-third that (10) of steel and thus (11) aluminium sheets (12) will suffer large (13) deformations. One solution to this could be to increase the thickness (14) of the aluminium sheet to three times the thickness of the steel that (15) it (16) is intended to replace.

### QUESTIONS

- 1- **that**: give the reference
- 2- **toughness**: translate into Spanish
- 3- **they are likely to crack**: Translate
- 4- **Since**: give a synonym
- 5- **brittle**: Translate
- 6- **that**: give the reference
- 7- **provide**: translate into Spanish or give a synonym in English
- 8- **led**: give the Infinitive
- 9- **Yet**: translate into Spanish
- 10- **that**: give the reference
- 11- **thus** translate into Spanish
- 12- **sheets**: explain in English
- 13- **large**: give a synonym in English
- 14- **thickness**: give the opposite
- 15- **that**: give the reference
- 16- **it**: Give the reference

FILL IN THE GAPS (2.0p) ..... = Grammar; \_\_\_\_\_ = Word Formation/Voc

Aluminium is one **OF THE MOST WIDELY/COMMONLY/OFTEN/FREQUENTLY USED METALS**. (DE LOS METALES MÁS USADOS) in **ENGINEERING** (INGENIERIA). But **IT IS TOO** (ES DEMASIADO) reactive to occur naturally **AS A PURE METAL** (COMO METAL PURO). **INSTEAD** (EN SU LUGAR), **IT IS FOUND** (SE ENCUENTRA= FIND) combined in about 270 different minerals. Aluminium is a **SILVERY** (SILVER= adj) white metal with many properties. With an electrical conductivity **GREATER/HIGHER/LARGER THAN THAT/THE ONE OF COPPER** (MAYOR QUE LA DEL COBRE) and **(A) MUCH/FAR LOWER DENSITY**. (UNA DENSIDAD MUCHO MAS BAJA), it is used for electrical transmission lines. Pure aluminium is soft and **BRITTLE** (QUEBRADIZO), but can be **TOUGHENED** (TOUGH= vb) with **SMALL AMOUNTS** (PEQUEÑAS CANTIDADES) of copper, magnesium and silicon.

Based **ON ITS** (SUS) chemical properties, aluminium is not very useful. **UNLIKE/CONTRARILY TO/AS OPPOSED TO IRON** (A DIFERENCIA DEL HIERRO) it is **MORE ACTIVE (THAN IRON)** (MAS ACTIVO QUE EL HIERRO), **WHICH** (QUE) has a reduction potential of -0.44 volt. **DESPITE/IN SPITE OF THIS** (A PESAR DE ESTO), the product of its corrosion **STRONGLY** (STRONG=adv) adheres to the metal's surface, protecting it from further **CORRODING** [CORROSION] (CORRODE= vb). The oxide coating **FORMED/MADE** (FORM/MAKE=shortened relative clause) on aluminium can be improved using a process **IN WHICH** (EN EL QUE) aluminium metal is oxidized; after this process, its coating **..IS/GETS/BECOMES THICKER** (RESULTA MAS GRUESO).

Aluminium **\_RECYCLING-** (RECYCLE=Noun) saves **TWICE AS MUCH ENERGY** (EL DOBLE DE ENERGIA) as needed in refining. **AS/SINCE** (PUESTO QUE) it is in the metallic state, all the energy **SPENT** (SPEND = shortened relative clause) in purifying the ore is saved **WHEN (IT IS) RECYCLED/RECYCLING** (CUANDO SE RECICLA).

READING COMPREHENSION (1.5p)

Alloys

An important activity of materials scientists is that (1) of alloy development. Ordinarily metal castings exhibit very little toughness (2) and *they are likely to crack* (3). by catastrophic failure. Since (4) the integrity of an automobile would be limited by having relatively brittle (5) body components new alloys have been developed that (6) provide (7) a better material. Other advances brought about by materials scientists have led (8) to a greater acceptance of aluminium in cars. By alloying, aluminium can be made as strong as steel. Yet (9) its elastic modulus will be one-third that (10) of steel and thus (11) aluminium sheets (12) will suffer large (13) deformations. One solution to this could be to increase the thickness (14) of the aluminium sheet to three times the thickness of the steel that (15) it (16) is intended to replace.

QUESTIONS

1- <b>that</b> : give the reference	<b>An important activity (of materials scientists)</b>
2- <b>toughness</b> : translate into Spanish	<b>Tenacidad (resistance to fracture/breaking)/it doesn't break easily</b>
3- <b>they are likely to crack</b> : Translate	<b>Tienden a romperse/requebrajarse</b>
4- <b>Since</b> : give a synonym	<b>As/because</b>
5- <b>brittle</b> : Translate	<b>Frágil, quebradizo (it can easily be broken/fractured)</b>
6- <b>that</b> : give the reference	<b>New alloys</b>
7- <b>provide</b> : translate into Spanish or give a synonym in English	<b>Proporcionan</b>
8- <b>led</b> : give the Infinitive	<b>(To) lead</b>
9- <b>Yet</b> : translate into Spanish	<b>Aun así (it expresses CONTRAST)</b>
10- <b>that</b> : give the reference	<b>The elastic modulus</b>
11- <b>thus</b> translate into Spanish	<b>Así pues, por (lo) tanto</b>
12- <b>sheets</b> : explain in English	<b>A rectangular piece of a material which is very/especially thin</b>
13- <b>large</b> : give a synonym in English	<b>big</b>
14- <b>thickness</b> : give the opposite	<b>Thinness</b>
15- <b>that</b> : give the reference	<b>(The) steel</b>
16- <b>it</b> : Give the reference	<b>The aluminium sheet</b>

	a	b	c	d		a	b	c	d		a	b	c	d		a	b	c	d
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1		X			10	X				19		X			28	X			
2				X	11		X			20		X			29			X	
3			X		12				X	21			X		30				X
4	X				13				X	22				X	31		X		
5		X			14	X				23				X	32				X
6		X			15			X		24	X				33			X	
7	X				16			X		25		X			34			X	
8			X		17	X				26			X		35	X			
9	X				18				X	27				X					