WELDING

24.1. Vocabulary

Ex. 1. Match the words to their Russian equivalents.

1. welding helmet	а. сварочный аппарат MIG
2. respirator	b. сварочный аппарат TIG
3. MIG welder	с. механизм подачи проволоки
4. collision	d. коллизия
5. UV light	е. сварочный шлем
6. wire feeder	f. шлак
7. plasma cutter	g. установка для плазменной резки
8. welding	h. респиратор
9. TIG welder	і. ручной сварочный аппарат
10. stick welder	ј. паяльный лампа
11. slag	k. ультрафиолет
12. torch	1. сварка
13. gun	m. цемент-пушка

Ex. 2. *Complete the sentences with the given words:*

stick, gun, uv, plasma, welding, collision, slag, torch, wire, respirator, welder (2), helmet

The ____(1) of sparks can be dangerous during welding.

I need a ____(2) for my welding project.

He used his MIG _____(3) to join the two pieces of metal together.

A _____(4) cutter is necessary for precise cuts in welding.

Don't forget to wear your _____(5) while welding to protect your lungs.

(6) must be removed from the weld before it cools completely.

A _____(7) welder may be more suitable for thicker pieces of metal.

The TIG _____(8) provides cleaner and more precise welds.

Make sure to use a _____(9) to melt the metal pieces together.

(10) light can be harmful to your eyes during welding, so wear a helmet with shade protection.

(11) is not an easy task, but with practice, you will improve.

A welding _____(12) is essential for protecting your face from sparks and heat.

A ____(13) feeder helps to control the speed and flow of the welding wire.

24.2. Reading

Ex. 1. Read the text.

How Does Welding Work?

Welding is a high-heat process that melts the base materials. This is also the main differentiating factor from soldering and brazing where only the filler material is melted and no fusion between the parent materials occurs.

Welding works by joining two or more workpieces together at high temperatures. The heat causes a weld pool of molten material which after undergoing cooling, solidifies as one piece, forming a weld. The weld can even be stronger than the parent metals.

There are many different types of welding but all of them involve heat or pressure to melt the metals to create welded joints. The source of heat or pressure may vary depending on the application and the material used. Metals are known as the most commonly welded materials, given their easy and straightforward welding principles. Plastic welding is also quite widespread but welding wood is just in its nascent phase.

The welding process is influenced by many factors, such as the need for specific additional tools, shielding gases, welding electrodes and filler material.

Ex. 2. Say if the following statements are TRUE or FALSE

1. Soldering and brazing involve fusion between the parent materials.

2. The weld pool of molten material solidifies as multiple pieces.

3. Some types of welding involve heat or pressure to melt the metals to create welded joints.

4. Metals are the most commonly welded materials because of their easy and straightforward welding principles.

5. Each welding method has unique characteristics.

Ex. 3. Answer the questions.

1. What is welding and how does it differ from soldering and brazing?

- 2. What happens to the base materials during the welding process?
- 3. Can a weld be stronger than the parent metals, and why?

4. Are there different types of welding, and what do they have in common?

5. What factors influence the welding process, and what additional tools may be needed?

24.3. Communication

Ex. 1. Match the sentences to make dialogues.

- 1. Can you hand me the a. Sure, brazing uses a filler metal with a higher melting point than soldering.
- 2. What type of alloy is this b. Sure, here you go.

made of?

- 3. We need to reinforce this beam.
- 4. Do we need to braze or weld this joint?
- 5. Can you explain the difference between brazing and soldering?
- 6. We need to fuse these two pieces together.
- 7. I need to solder these wires together.
- 8. What's the difference between welding and soldering?

- c. Okay, let's use the welding machine.
- d. I think brazing will be sufficient.
- e. Be careful not to overheat them.
- f. I'm not sure, let me check the specifications.
- g. Welding involves melting and fusing two metal pieces together, while soldering uses a lower-melting-point metal to join them
- h. Okay, let's use some additional steel plates.