

INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

First School Year

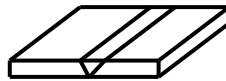
WELDED AND RIVETED JOINTS**1. Welded joints**

Welded joints are the most used *undetachable joints*. They are *welded metal joints* which are *melted* and *pressed*.

1.1 Butt end welds

In Picture 1 you can see a V *butt weld* which is on one *plane*.

Picture 1

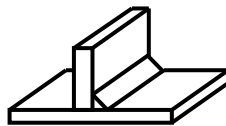


V butt weld

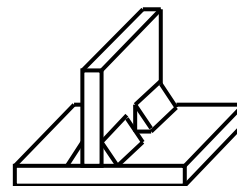
1.2 Fillet welds

In Picture 2 you can see example of different *fillet welds*.

Picture 2



common single fillet

interrupted double
fillet weld

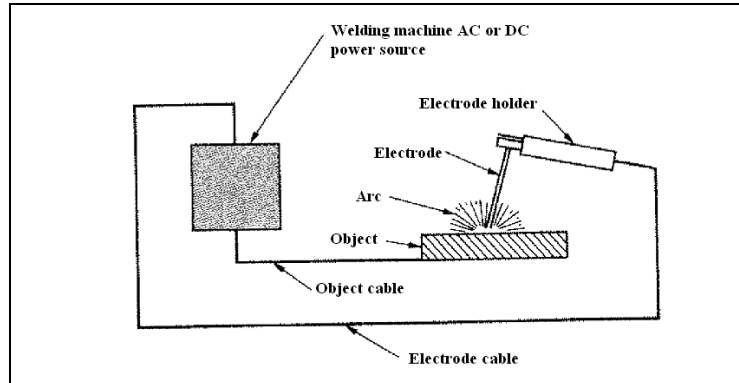
The *advantage* is for example high *work productivity*. The *disadvantage* is for example that there must be certified working staff.

1.3 Shielded metal arc welding (SMAW)

It is a manual *welding* process. There is an *arc* between a *flux covered electrode* and a *welded* object – see Picture 3.

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Picture 3



2. Riveted joints

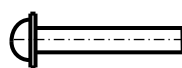
2.1 Definition

- They are **und detachable joints** which have two parts.
- They are used for heavy **weldable** materials.

The **advantage** for example is that they have more **flexibility** than **welded joints**. The **disadvantage** for example is that they don't **guarantee** the **accuracy** of the position of connected **components**.

Rivets are standardized – see Picture 4

Picture 4



boiler rivet



tubular rivet

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VOCABULARY

accuracy	přesnost	melted	tavný
advantage	výhoda	metal	kov
arc	oblouk, obloukový	plane	rovina
boiler rivet	kotlový nýt	pressed	tlakový
butt end weld	tupý svar	riveted	nýtový
common single fillet weld	koutový svar jednostranný	shielded metal arc welding	obloukové svařování (ruční s ochran. štítem)
component	součástka		
disadvantage	nevýhoda	tubular rivet	trubkový nýt
fillet weld	koutový svar	undetachable	nerozzebíratelný
flexibility	pružnost	weld	svařovat
flux covered electrode	tavidlem obalená elektroda	welded	svárový
guarantee	zaručovat	welding	svařování
interrupted double fillet weld joint	koutový svar oboustranný spoj	work productivity	produktivita práce

COMPREHENSION QUESTIONS

1. What do you know about welded joints?
2. Can you name an advantage of welded joints?
3. Can you name a disadvantage of welded joints?
4. Can you describe shielded metal arc welding?
5. Can you define a riveted joint?
6. What advantage and disadvantage of riveted joints do you know?

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EXERCISES

1. Match the words below with words 1-6 to make phrases. Then translate the expressions into Czech:

joint	electrode	process
productivity	rivet	weld

- | | | | |
|---|--------------|-------|-------|
| 1 | welding | _____ | _____ |
| 2 | butt end | _____ | _____ |
| 3 | undetachable | _____ | _____ |
| 4 | work | _____ | _____ |
| 5 | flux covered | _____ | _____ |
| 6 | boiler | _____ | _____ |

2. Translate the following phrases into English:

1 *svárový spoj*

4 *kotlový nýt*

2 *oprávněný personál*

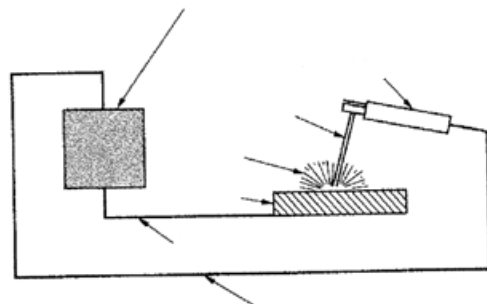
5 *koutový svar oboustranný*

3 *normalizované nýty*

6 *tavidlem obalená elektroda*

3. Add the expressions where you think they should be:

- 1 ELECTRODE CABLE
- 2 OBJECT
- 3 ELECTRODE
- 4 WELDING MACHINE
- 5 OBJECT CABLE
- 6 ARC
- 7 ELECTRODE HOLDER



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KEY – for teachers only

1.

joint	electrode	process
productivity	rivet	weld

- | | | | |
|---|---------------------|---------------------|-----------------------------------|
| 1 | welding | <i>process</i> | <i>process svařování</i> |
| 2 | butt end | <i>weld</i> | <i>tupý svár</i> |
| 3 | undetachable | <i>joint</i> | <i>nerozebíratelný spoj</i> |
| 4 | work | <i>productivity</i> | <i>produktivita práce</i> |
| 5 | flux covered | <i>electrode</i> | <i>tavidlem obalená elektroda</i> |
| 6 | boiler | <i>rivet</i> | <i>kotlový nýt</i> |

2.

- | | | | |
|---|---|---|--|
| 1 | svárový spoj
<i>welded joint</i> | 4 | kotlový nýt
<i>boiler rivet</i> |
| 2 | oprávněný personál
<i>certified working staff</i> | 5 | koutový svar oboustranný
<i>interrupted double fillet weld</i> |
| 3 | normalizované nýty
<i>standardised rivets</i> | 6 | tavidlem obalená elektroda
<i>flux covered electrode</i> |

3.

