

## INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

Second School Year

### SPECIAL CASTING METHODS

1. In these methods we **cast melted** metal into a **mould**. The **mould's cavity** has the shape of a future **casting**.

Using these methods we can get greater accuracy and good quality of **castings**. We don't have to **machine** the **castings** further.

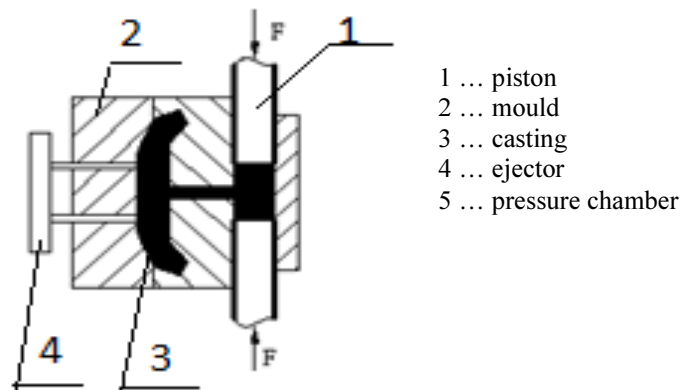
2. Here is an example of a special **casting** method:

#### 2.1 Casting under pressure

We use it for the production of precision **castings** with good surface **roughness**. We also use it for **casting** non-ferrous metals (for example **lead**, **tin**, zinc, magnesium, **copper**) and their alloys.

We classify 2 methods of casting under pressure:

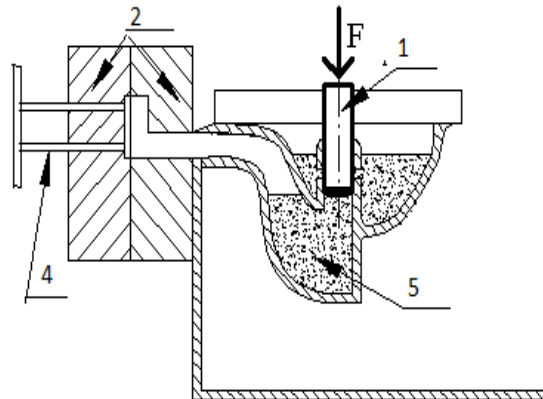
##### 2.1.1 Casting with a cold pressure chamber – see Picture 1



Picture 1 - casting with a cold pressure chamber

- The melting **furnace** is outside the pressure **chamber**.
- During this casting there are the following procedures:
  1. We close the pressure **chamber** with the lower piston.
  2. The **casting cup** transfers the **melted** metal in the pressure **chamber**.
  3. We close the pressure **chamber** with the upper piston.
  4. The pressure of both pistons transfers the **melt** to a **mould**. The melt hardens there under pressure.

### 2.1.2 Casting with a hot pressure *chamber* – see Picture 2



Picture 2 - casting with a hot pressure chamber

1 ... piston 2 ... mould 3 ... casting 4 ... ejector 5 ... pressure chamber

- The **melting furnace** is part of the **casting** equipment.
- During this casting there are the following procedures:
  1. A piston pushes **molten** metal out of the **furnace** into a two-part metal **mould**.
  2. We use it for **casting** alloys with a low **melting** point.

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**VOCABULARY**

<b>cast</b>	odlévat
<b>casting cup</b>	slévárenská lžíce
<b>cavity</b>	dutina
<b>chamber</b>	komora
<b>copper</b>	měď
<b>ejector</b>	vyhazovač
<b>furnace</b>	pec
<b>lead</b>	olovo
<b>machine</b>	obrábět
<b>melt</b>	tavit
<b>mould</b>	forma
<b>roughness</b>	drsnost
<b>tin</b>	cín

**COMPREHENSION QUESTIONS**

1. What is a special casting method?
2. What do we create using this method?
3. What special casting methods do you know?
4. Choose one special casting method and try to explain the procedure.

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## EXERCISES

## 1. Grammar corner – focus on questions.

Cross out the wrong question:

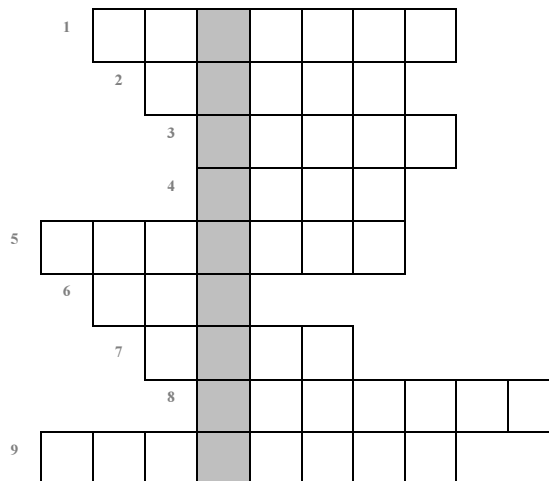
- 1 What **you did/did you do** last night?
- 2 What **happened/did happen** to you?
- 3 What **means this word/ does this word mean**?
- 4 How many people **came/ did come** to this class?
- 5 Which bus **goes/ does go** to the airport?
- 6 Which actor **won/ did win** the Oscar this year?
- 7 What **said the teacher/ did the teacher say**?

Write the questions. Do you know the answers?

- 1 Who \_\_\_\_\_ ‘Hasta la vista, baby’? (**say**)
- 2 How many Formula 1 world championships \_\_\_\_\_? (**Ayrton Senna/ win**)
- 3 Which US president \_\_\_\_\_ the Nobel Peace Prize in 2002? (**win**)
- 4 Who \_\_\_\_\_ the film *The Fifth Element*? (**direct**)
- 5 When \_\_\_\_\_ president of South Africa? (**Nelson Mandela / become**)
- 6 Who \_\_\_\_\_ *The Lord of the Rings*? (**write**)
- 7 What \_\_\_\_\_ before he became a singer? (**Sting / do**)

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### 2. Complete the crossword and translate the vertical word



- 1 pec
- 2 forma
- 3 horní
- 4 dobrý
- 5 obrábět
- 6 cín
- 7 tavit
- 8 povrch
- 9 tlak

## INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

## EXERCISES – KEY FOR TEACHERS ONLY

1. *Cross out the wrong question:*

- 1 What ~~you did~~/did you do last night?
- 2 What ~~happened~~/~~did happen~~ to you?
- 3 What ~~means this word~~/does this word mean?
- 4 How many people ~~came~~/~~did come~~ to this class?
- 5 Which bus ~~goes~~/~~does go~~ to the airport?
- 6 Which actor ~~won~~/~~did win~~ the Oscar this year?
- 7 What ~~said the teacher~~/~~did the teacher say~~?

*Write the questions. Do you know the answers?*

- 1 Who ~~said~~ 'Hasta la vista, baby'? (**say**)
- 2 How many Formula 1 world championships ~~did Ayrton Senna win~~? (**Ayrton Senna/ win**)
- 3 Which US president ~~won~~the Nobel Peace Prize in 2002? (**win**)
- 4 Who ~~directed~~ the film *The Fifth Element*? (**direct**)
- 5 When ~~did Nelson Mandela become~~ president of South Africa? (**Nelson Mandela / become**)
- 6 Who ~~wrote~~*The Lord of the Rings*? (**write**)
- 7 What ~~did Sting do~~ before he became a singer? (**Sting / do**)

## 2. ROUGHNESS - drsnost

- 1 furnace
- 2 mould
- 3 upper
- 4 good
- 5 machine
- 6 tin
- 7 melt
- 8 surface
- 9 pressure