

Protocol:	BUILDING CERAMICS	K
Lecturer:		

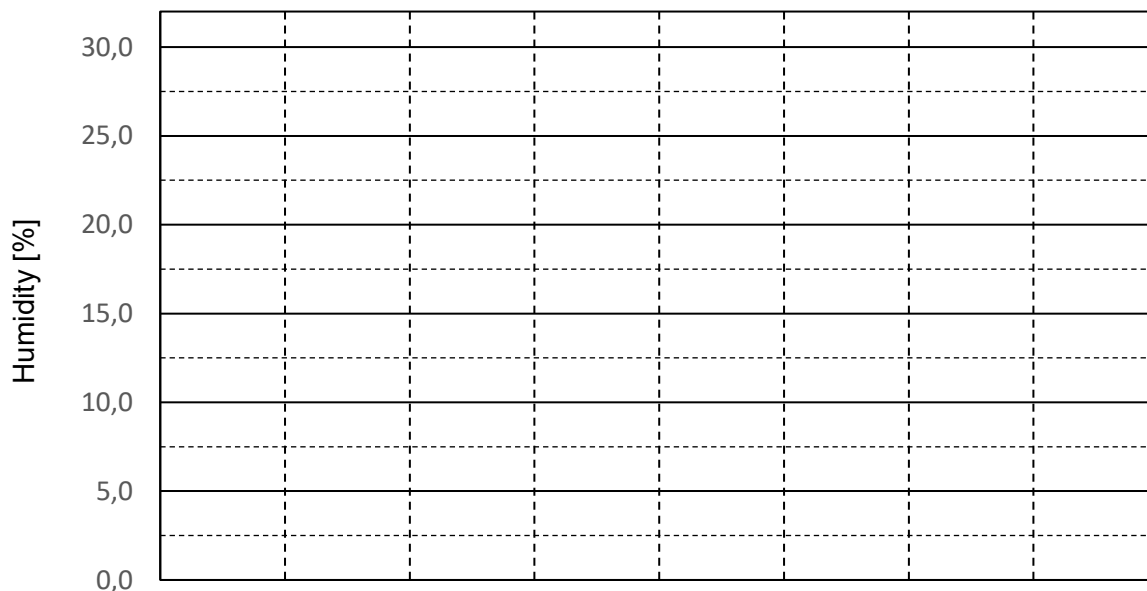
Determination of the maximum comparative speed of safe drying. Determination of critical humidity [ČSN 72 1565 – 11]

Determine the critical point moisture content and classify the soil according to the CSB coefficient.

Assignment:

	Humidity [%]	Drying shrinkage [%]
Sample		
Dried		

Creation of the Bigot curve:



Critical humidity w_{KB} =

Calculation of the coefficient of sensitivity to drying according to Bigot: CSB =

Conclusion, classification of raw materials:

Mark the correct answer:

The production of fired ceramics has a long tradition in the Czech Republic. Both utility and construction ceramics are widely produced.

1. The largest volume of ceramic production is represented by:
 - a) masonry elements and roofing,
 - b) tiles and paving,
 - c) sanitary ceramics.
2. These products are made from plastic dough, which has a moisture content of:
 - a) 5-15%,
 - b) 15-30%
 - c) 60-80%.
3. Tiles and paving are made from a working mass, which we call:
 - a) casting slurry,
 - b) plastic dough,
 - c) wet mixture (pressing granulate).
4. The last group of building ceramic products is sanitary ceramics, which are produced by casting a ceramic suspension into molds. The molds used are:
 - a) gypsum,
 - b) steel,
 - c) ceramic.
5. The technology of building ceramic production consists of the following steps:
 1. Extraction of raw material
 2. Homogenization of raw material and creation of working mass
 3. Creation of the product shape - molding
 4. Drying of molding
 5. Firing of the drying mass
6. Before the actual firing, it is necessary to dry the product. The humidity of the drying masses ranges between:
 - a) 0-3%,
 - b) 3-5%,
 - c) 3-10%.
7. Drying takes place in periodic dryers (chamber) or in continuous dryers (tunnel, channel). The behavior of the plastic dough during drying is described by:
 - a) Pfefferkorn curve,
 - b) drying curve,
 - c) Bigot curve.
8. The last technological step is firing, during which various chemical reactions take place and the ceramic shard is sintered. Ceramics acquire their excellent utility properties. Firing takes place according to the firing curve in chamber, tunnel or roller kilns. The behavior of the working mass during firing describes the property we call:
 - a) plasticity,
 - b) refractoriness,
 - c) sinterability.

In the production of ceramics, it is necessary to know the basic characteristics of the raw materials used, such as granulometry, chemical and mineralogical composition. For fired ceramic products, dimensional accuracy, absorbency, porosity, frost resistance, thermal insulation properties, abrasion resistance, wear resistance and other properties specific to the given type of ceramic product are guaranteed.