Ceramic Technology – References

Note: *In all references we use the anglo-american alphabet, i.e. items (names) beginning with "ch" are to be found under "c" and the Czech characters č, ě, ř, š, ž are to be found under c, e, r, s, z, respectively.*

1. Raw materials and their characterization

Anonynmous: Kaolin origin, processing of kaolin, kaolin Sedlec Ia, kaolin grades, parameters of kaolins. Information (Czech and English) on the website www.sedlecky-kaolin.cz (found 11-7-2006).

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Preface

These camera-ready study materials (SM – English version "SM-Lect-…-A", Czech version "SM-Lect-…-C") are intended to serve as a brief guide to the contents of the full-semester lecture and exercise course "Technology of Ceramics" ("Technologie keramiky") at the ICT Prague. This course is designed for advanced undergraduate students, specializing in the field of ceramics. Therefore, apart from a broad basic knowledge gained during undergraduate courses in materials science and engineering, the audience and the reader is assumed to be familiar at least with the fundamental principles of ceramic science and technology.

At this stage of advanced studies (within the M.Sc. programme) the student should be able to being together knowledge acquired in different fields of materials science and engineering and should try to adopt a certain ability to critically assess the information from different sources. Therefore, it seems appropriate to gently advise the student to begin consulting the classical textbooks of ceramic science and technology and possibly some original literature (i.e. monographs, handbook chapters and selected papers) of his subject of specialization. Therefore, references make up an integral part of the present study materials. Apart from these study materials, directly accessible through the website of the ICT Prague to a broad interested audience, more detailed Extended Lecture Notes will be made accessible to the students attending the courses, prior to publishing the material as a textbook.

As an introduction we recommend the student to study Kingery's classical textbook *Introduction to Ceramics* (first edition 1960, second edition: Kingery et al. 1976), which might be called the "bible of ceramic science and technology". In addition, as a companion to these lectures, the interested student may use Reed's *Introduction to the Principles of Ceramic Processing* (first edition 1988, second edition 1995), German's *Sintering Theory and Practice* (1996) and Lee & Rainforth's *Ceramic Microstructures – Property Control by Processing* (1994). These books cover a large part of the contents of the subject and will be a solid basis, which can be conveniently supplemented by the information given in the lectures.

One of the main features of these lectures is the attempt to achieve a fruitful synthesis between the Czech tradition of teaching ceramic science and technology (with its emphasis on silicate ceramics, refractories and process control) and the Anglo-American world literature in ceramic science and technology, which is largely focused on modern engineering ceramics, new processing techniques and the study of structure-property relationships.

We emphasize that these study materials are intended to serve only as a guide through the lectures, not to replace the student's attending these lectures and actively participating in the exercise courses given at the ICT Prague. This is particularly important because for effective learning the student will need schematic figures, multimedial data representations, micrographs, films and of course especially the phase diagrams, which will be presented and discussed in the lectures and excercises. The complex exercise problems (including additional explicit questions) given at the end of selected lectures are to be elaborated by the student according to instructions given in the exercise courses. They are meant as topics of small seminar works (requiring a certain input from the student's side), not only as knowledge tests.

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