IIMinistry of Education and Science of the Russian Federation Izhevsk State Technical University

SECOND FORUM OF YOUNG RESEARCHERS

In the framework of International Forum "Education Quality - 2010"

Proceedings April 22, 2010, Izhevsk, Russia



Izhevsk Publishing House of Izhevsk State Technical University 2010

Editorial Board: Boris Yakimovich, DSc, Prof., ISTU Yury Turygin, DSc, Prof., ISTU

 Second Forum of Young Researchers. In the framework of
International Forum "Education Quality – 2010" : Proceedings (April 22, 2010, Izhevsk, Russia). – Izhevsk : Publishing House of ISTU, 2010. – 444 p.

ISBN 978-5-7526-0442-3

Proceedings contain papers of MSc, PhD and DSc students from Russian and foreign higher educational institutions presented at the Second Forum of Young Researchers in the framework of International Conference "Education Quality – 2010". The areas covered include: Economics, Computer Science, Mechanical Engineering, Design, Ecology, Industrial Safety and Instrumentation Engineering.

УДК 62(063) ББК 30я431

ISBN 978-5-7526-0442-3

© Design. Publishing House of ISTU, 2010

All textures produced by using heat treatment are smoothed. Only cutting textures have clear facets, from which light reflects splendidly.

Deformation of surface layer can be also done in hot glass condition. The crackle effect is produced by briefly submerging the very hot glass into cold water during the glass-forming process. This causes the outer layer of glass to crack. When the glass is then reheated and expanded (by blowing into the blowpipe) the cracks grow larger (figure 6). Decorative relief surface appears.



Fig. 6. Deformation of glass surface layer in hot condition - crackle effect

Several methods at the same time can be used to create relief texture (for example mechanical operations after heat treatment). It significantly extends texture abilities. Combination of various textures in one product increases its decorative expressiveness.

> Konstantin Ivshin, PhD, Senior Research Assistant Izhevsk State Technical University Anatoliy Matveev, MSc student Udmurt State University

HARDWARE-SOFTWARE MEANS (CAD/CAM/CAE-SYSTEMS) IN DESIGNING

Key words: hardware-software means, integrated, classification systems.

The choice of hardware-software means of the designer should be based on a choice functionality, necessary in solving the set designing problems. The classification of program systems by functionality and integration possibilities will provide a designer with a rational choice of

[©] Ivshin K. S., Matveev A. A., 2010

software in designing. In design practice the necessity in integrated approach to the classification of designing systems for creating a new technique for functionality selection is revealed.

E. V. Kargashina, Ph student, Department of Technology and Artistic Processing of Materials tel. +7 (3412) 59-96-82, e-mail: kargashina ev@mail.ru

DEVELOPMENT OF WOOD PRODUCT DESIGN AND TECHNOLOGY OF THEIR DECORATION

The classification of wood art items is considered.

Key words: wood, furniture, design, shape, finishing.

Wood is one of the first materials which were discovered by people. Wood design and production include all aspects of engineering solutions and processes. Wood aesthetic properties inspire many artists and masters to the creating of masterpiece.

It is better to study the development of wood art editions with furniture design, since the furniture successfully combines utilitarian and art functions. The history of furniture development is concerned with architecture where new styles have been developing ever since.

Furniture native land is considered to Egypt (V-IV B.C. – II B.C.). Egyptians imported wood from neighbor states. They usually used wood for interior finishing and furniture production. They used expensive species of wood such as cedar, ebony, yew-tree, olive-tree for furniture and always finished them with engraving, painting and incrustation. Their furniture could be characterized with rich color of decoration and high ornamentality of shape. The paint was applied with a dense bed. The Art of ancient Egypt has a strong impact on the culture of other countries. After Napoleons intrusion into Egypt in 1798, the Art of Egypt was brightly expressed in Empire style.

The furniture of ancient Greece had simpler design, not so decorative as Egyptian. Greece craftsmen developed new reined classical shapes. Moreover they invented the methods of wood bending under the influents of hot steam. The Greek furniture was decorated with floriated and geometrical ornamental patterns, intarsia with silver and ivory.

[©] E. V. Kargashina, 2010