FIRST INTERNATIONAL CONFERENCE ON HEAT PIPES

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The First International Conference on Heat Pipes, devoted to problems of the construction and determination of the parameters and modes of operation of various heat pipes and to problems of the compatibility of materials with coolants and the determination of the durability of operation of heat exchangers containing heat pipes, was held on October 15-17, 1973 in Stuttgart (FRG).

The work of the Conference was carried out by six different sections: 1) the construction of heat pipes and the analysis of their operation, 2) the problem of compatibility of materials, 3) the fundamentals of heat and mass exchange, 4) heat pipes of variable thermal resistance, 5) the use of heat pipes in space, and 6) the use of heat pipes on earth.

More than 100 scientists from different countries (the USSR, Czechoslovakia, the FRG, England, France, Italy, the Netherlands) took part in the work of the Conference.

The reports were devoted to urgent problems of the use of heat pipes in the electronic, radio engineering, electrical engineering, mechanical engineering, and metallurgical industries, light industry, the food industry, and other branches of the economy.

Special attention was paid to the use of heat pipes in space technology and nuclear energy.

It was noted by many speakers that heat pipes can be successfully employed in different instruments and equipment for the transfer of energy without significant losses, the equalizing of a temperature field, and providing isothermal conditions for the treatment of various materials and products.

For example, heat pipes permit a considerable improvement in the treatment of polymer materials in extruders, the stamping of glass vessels, and the casting of metallic details. The use of heat pipes in electrical machinery for the cooling of rotors and stators of motors and generators and the windings of transformers makes it possible to increase their electrical load by 50% or more.

Heat pipes are successfully used for the cooling of semiconductor devices, generator lamps, and thyristors. There are interesting possibilities for the use of heat pipes in the oil and gas industry with the utilization of solar energy.

The participants in the work of the Conference included not only workers from universities and scientific research laboratories but also representatives of a number of firms representing different branches of industry.

The Conference was very interesting and undoubtedly will prove helpful for the future development of studies and the application of heat pipes.

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