

# Introduction

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Engine coolant is probably one of the most universally used fluids for domestic and industrial use. The internal combustion engine is a prime source of heat rejection requirements, and is used, of course, worldwide, with coolant for efficient operation. Industrial nations are both aware and most concerned about performance and service life of vehicles and cooling environments. Other developing or agrarian nations will increasingly use engines and coolants to protect them. Engine coolant technology necessarily has to change with improvements in the combustion engine system, and work is continuously addressing current and future needs.

The first symposium on Engine Coolants was held in April 1979, under the sponsorship of ASTM Committee D-15 on Engine Coolants. The international conference was well supported and resulted in the publication of the papers presented in *Engine Coolant Testing: State of the Art, ASTM STP 705*. The various engine coolant related standards prepared by Committee D-15 were discussed, new inhibitor systems and test procedures were introduced, and overall performance in vehicle testing and operation was presented. The educational aspects of the conference and the chance to discourse with colleagues in the same field were welcomed. The success of the meeting prompted consideration and then determination that a second conference would be beneficial, especially in view of further new coolant requirements and developing test methods to meet the challenge.

The Second Symposium on Engine Coolants and Their Testing was held at ASTM headquarters in Philadelphia, 9-10 April 1984. A total of 16 papers were presented, from manufacturers, users, and suppliers of materials for components, with contributions from Europe and the United States. The symposium was organized to cover advances that have been made since the first symposium, because of relatively rapid changes occurring in requirements and formulations. One very important recent development is the hot surface test for aluminum engine materials and coolant that is scheduled to become a new standard. The program covered a wide range of topics that are the substance of this second STP publication. The book provides a good adjunct to the previous one in providing a library of technical papers on the subject of engine coolants and their testing.

The current ASTM standards developed by Committee D-15 are to be found

in the *Annual Book of ASTM Standards*, Volume 15.05, and comprise 25 standards related to engine coolants.

*Selection and Use of Engine Coolants and Cooling System Chemicals ASTM STP 120B* (1974) covers cooling systems, coolants, installation, service, and cooling system chemicals.

The combined effort of ASTM Committee D-15 members is acknowledged and appreciated. A symposium requires the dedication of all concerned for a successful outcome. The meeting was a success, which is reflected in the quality of the technical papers. Special thanks is due to the authors, who persevered in manuscript preparation, and chairmen of the sessions. All participating organizations and contributors made the event a pleasant social and technical experience.

Members of the symposium planning committee were:

Francis R. Duffey	American Motors
R. Douglas Hudgens	Fleetguard, Inc.
Charles W. MacKenzie	Radiator Reporter
Ronald R. Wiggle	Ford Motor

*Roy E. Beal*

Amalgamated Technologies, Inc.; symposium  
chairman and editor