steels. It is anticipated that this investigation may lead to results of great industrial value. Work is also proceeding on the mechanism of corrosion inhibitor action. This is a problem of every-day interest; for example in the prevention of corrosion in automobile cooling systems.

Improvement of visibility through aircraft windscreens by the use of a bonded rain repellent is of great significance in flying. Flight tests up to 600 m.p.h. through all sorts of rain conditions have been carried out on the rain repellent developed last year. These tests have demonstrated the effectiveness of the repellent in maintaining visibility when flying through rain. The material is meeting general acceptance by the aircraft industry and is now being manufactured commercially.

Catalytic reactions of acetylene with aldehyde under pressure, an industrial investigation sponsored by Shawinigan Chemicals Limited, has for its object the preparation of acetylenic alcohols and glycols. Chemistry of unsaturated fatty acids is being studied in an attempt to prepare them by the dehydrogenation of saturated acids.

Further work is being done on the use of silver-calcium alloys as catalysts in the direct oxidation of ethylene to ethylene oxide. Work is also being done on the design of a reactor to provide optimum heat-transfer rates from the catalyst bed to the cooling medium. Attempts to employ the catalyst in the fluidized condition were not successful.

In collaboration with other laboratories, an attempt is being made to correlate the results of laboratory tests of natural and synthetic rubber stocks with road tests of tires containing the same stocks.

A new method for the recovery of oil from Athabasca tar sands by flash distillation in a fluidized bed of sand is meeting with considerable success in the laboratory stage. The data obtained in the course of laboratory experiments have been used to design a pilot plant on which construction has now been started.

In detergency research measurements have been made of the adsorption of soap, such as sodium stearate, and of the free fatty acids and free alkali on carbon black. Further work is being done on the adsorption of soaps on cotton.

Synthesis of organic compounds containing tracer elements is proceeding. The laboratory engaged in this work has prepared on request a large number of compounds containing stable tracers such as deuterium, nitrogen 15 and carbon 13. Facilities are being provided for the preparation of organic compounds containing active tracers such as carbon 14 and iodine 125.

The newly formed Division of Building Research commenced its active work during the year. Because the construction industry of Canada is operating at a higher volume than ever before in its history, recruitment of suitable staff is proving to be difficult but some progress has been made. A new Associate Committee of the Council has been authorized to deal with the National Building Code; the Division is assembling all available information on municipal and other codes for the use of this body.