

words and codes frequently are compromises between industry groups and are often vague and difficult to interpret. There are many notable exceptions to this hence Bureau's use of 142 in its continuing type specifications. Another consideration which must not be overlooked is that industry codes in general provide a *minimum* level of requirements. As pointed out previously this minimum level may not be consistent with the order of reliability required by the Navy.

Many industry specifications accept certified test reports as evidence of compliance with requirements. This technique is appropriate and practicable with reliable suppliers, but Government experience with it has not been successful.

#### NEW MATERIAL AND CONSTRUCTION METHODS

The Bureau is aggressively pursuing a policy of expediting the use of new materials and construction methods. In the expenditure of public funds it was natural for a policy of ultra-conservatism to develop. This policy required that all materials and methods be extensively tested prior to acceptance. Such time honored procedures have not kept pace with rapidly developing technology. Changes are necessary to get immediate benefits from these developments. Current thinking envisions the following methods of attaining more rapid evaluation: (1) Accelerated tests at the Lab at Hueneme; (2) In-Service records of other agencies including state, municipal, and county governments; (3) In-service tests on controlled basis on actual projects; (4) Federal Construction Council investigations; (5) Tri-service Building Materials investigations; (6) Examination of existing installations. The Bureau takes a dim view of test results from private laboratories where the manufacturer has sponsored the investigation and has paid the bill. Such findings are rarely unfavorable to the sponsor. Liberalizing policy, however, does not mean approval of all new materials and methods that come along. The Bureau remains responsible for the expenditures of public funds and therefore must be reasonably well assured of an acceptable level of quality.

In specifying new materials and methods proprietary requirements should be avoided. In general a performance type of specification is best for its purpose. I would like to point out a weakness that crops up frequently. Apparently some specification writers feel that if an article is not mentioned by name the specification is not pro-

proprietary. Performance requirements can be just as proprietary as naming the product. The yardstick is the amount of competition. It is suggested that the following be answered before specifying new materials or methods: (1) Is it competitive; (2) What is its service records; (3) What engineering data are available; (4) Has it been tested and by whom; (5) What is recommended use; (6) What are its advantages over what we are using; (7) What does it cost; and (8) Does it conform to any Federal or Military specification?

#### USE OF "OR EQUAL"

The use of the phrase "or equal" in specifications has been the source of many controversies and is a questionable specification tool. There is no doubt that this technique eases the preparation of specifications but it shifts the onus of interpretation to the contracting authority. This phrase has many ramifications which manufacturers are quick to point out. Since the products of different suppliers are never identical the bases for equality can become a knotty problem. In general, the contractor will choose the named brand for his source of supply, so that he can be assured of approval of the product without the uncertainty of the "or equal" evaluation. However, there are certain applications where this means of specifying is appropriate as follows: (1) There are no Government-type specifications for the item; (2) The item must be a minor part of the construction project; (3) The item cannot adequately be described because of its technically involved construction or composition. In each instance a minimum of three manufacturers should be included as part of the required description followed by the words "or equal" to assure that the bidding will not be restricted to the particular named manufacturers or suppliers.

#### FEDERAL AND MILITARY SPECIFICATIONS

The Armed Services Procurement Act and subsequent Department of Defense and Navy Procurement Directives make the use of coordinated Federal and Military specifications mandatory for the procurement of items, materials, and services. The Bureau is governed by these regulations. Procurement as used in the act includes those items, materials, or services which are provided as part of a general contract as well as items, materials, or services which are purchased outright. The