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INDEX NO. S-96(N)

# SHIP AND RELATED TARGETS

## JAPANESE DECK COVERINGS

U.S. NAVAL TECHNICAL MISSION TO JAPAN

U. S. NAVAL TECHNICAL MISSION TO JAPAN  
CARE OF FLEET POST OFFICE  
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From: Chief, Naval Technical Mission to Japan.  
To : Chief of Naval Operations.

Subject: Target Report - Japanese Deck Coverings.

Reference: (a)"Intelligence Targets Japan" (DNI) of 4 September 1945.

1. Subject report, covering Target S-96(N) of Fascicle S-1 of reference (a), is submitted herewith.

2. The investigation of the target and the target report were accomplished by Comdr. V.R. Hayes, USN, assisted by Lt.(jg) A.T. Turnbull, USNR, and Lieut. D.N. Richnell, RNVR, as interpreters and translators.



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S-96(N)

## JAPANESE DECK COVERINGS

"INTELLIGENCE TARGETS JAPAN" (DNI) OF 4 SEPT. 1945

FASCICLE S-1, TARGET S-96(N)

JANUARY 1946

U.S. NAVAL TECHNICAL MISSION TO JAPAN

# SUMMARY

## SHIP AND RELATED TARGETS JAPANESE DECK COVERINGS

Except for linoleum, which was used extensively, the Japanese Navy used very little deck covering material of any sort. The only other material of interest was a special flight-deck composition containing a rubber base.

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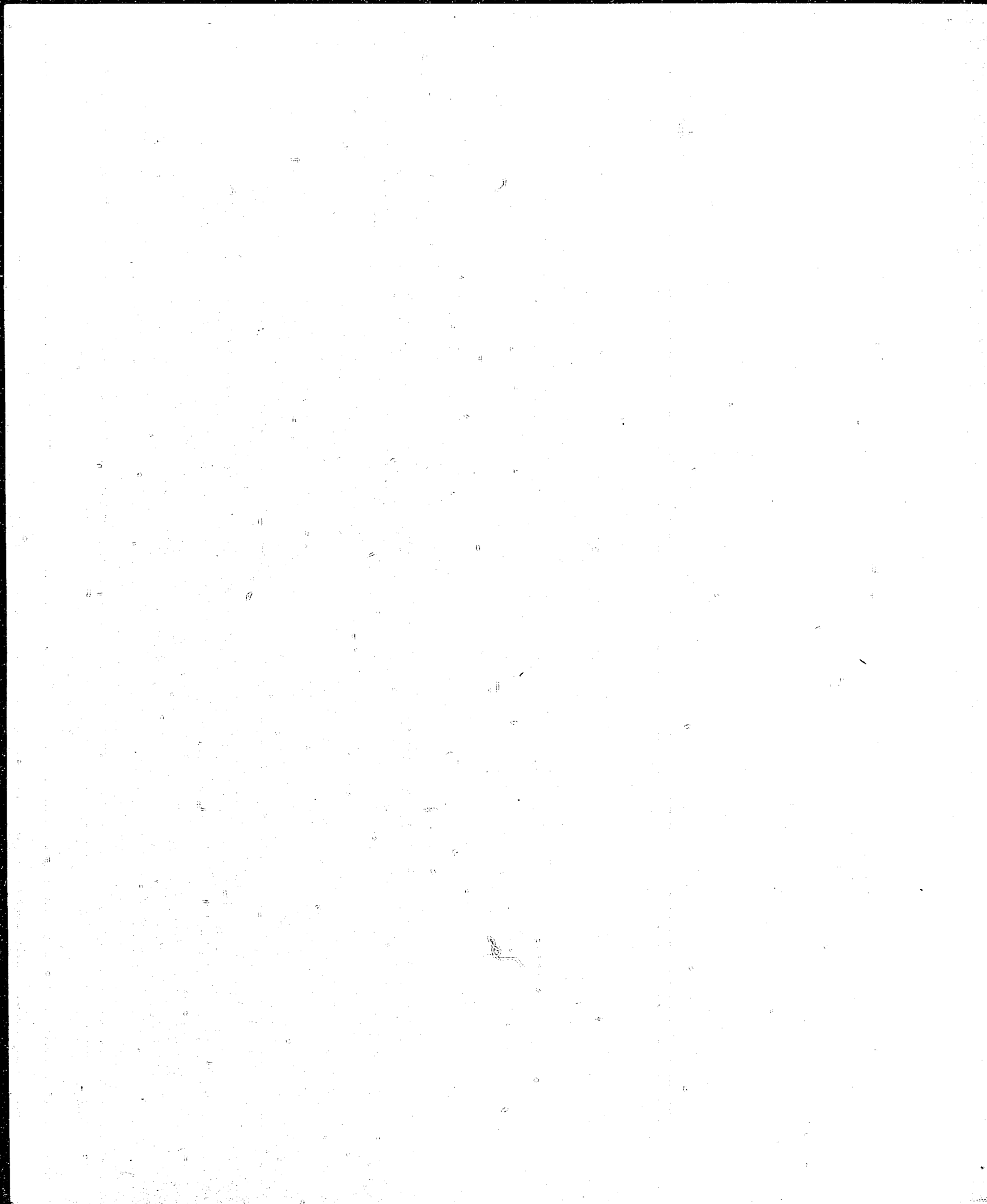
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## REFERENCES

Japanese Personnel Interviewed:

Captain MATSUMOTO - Chief of Design Section, Kure Navy Yard

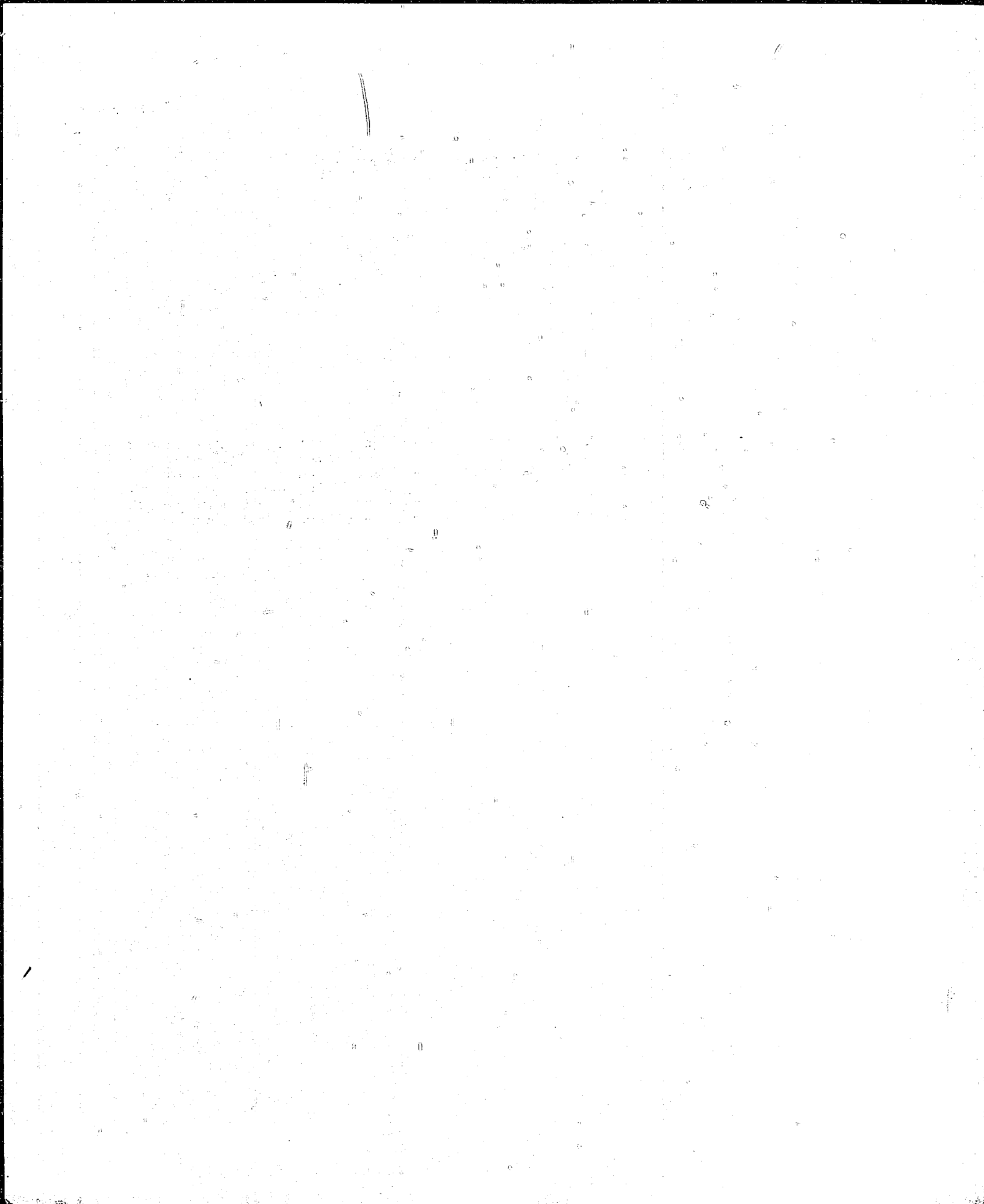
Mr. TAMEHIRO - Engineer, in charge of paint experiments at Kure Navy Yard



## INTRODUCTION

During the war, the U.S. Navy devoted considerable amount of attention to the development of suitable lightweight deck coverings for use on interior and weather decks. Many different types were tried, but all showed some disadvantages in service. The Japanese ignored this problem, as they had ignored many other minor problems. Only in the case of suitable material for use on steel flight decks had any attempt at new development been made.





# THE REPORT

## 1. General

The Japanese Navy continued to use linoleum as a deck covering, in spite of its many disadvantages. It was found in practically all spaces throughout the ship, including open bridges, pilot houses, radio rooms, engineering control rooms and weather decks. A cement or tile deck, sometimes covered with a wooden grating, was used in washrooms and galleys. Wooden decks were used in magazines. In certain weather locations, such as open gun mounts, metal strips were welded to the deck to give a surer footing. The only deck covering material of any special interest was a flight deck composition, recently developed for use on steel flight decks with a view to eliminating the necessity for wooden flight decks on light carriers.

## 2. Flight Deck Composition

### a. Composition

#### (1) Vehicle

Latex	60%
Casein (5% caustic soda added in solution)	15%
Sodium silicate, (water solution-Baume 26°)	25%

#### (2) Pigment

Portland cement	26%
Silicon grain	30%
Calcium carbonate	16%
Powdered asbestos	10%
Powdered mica	6%
Fe <sub>3</sub> O <sub>4</sub>	6%
Weathering preventative	2%
Vulcanizing compound	4%

(Note: Samples of material listed as weathering preventative and vulcanizing compound are being shipped to the Ordnance Investigation Laboratory, Indianhead, Md., marked with NavTechJap Equipment Number JE22-2011)

### b. Application

The pigment is slowly added to the vehicle and stirred constantly until a putty-like consistency is obtained. The deck is thoroughly cleaned, care being taken to remove all rust and oil. One coat of zinc metal paint zinc powder in a solution of sodium silicate is then applied, and allowed to dry for three days. The first coat of flight deck composition is then trowelled onto the deck. A second coat is applied after two or three days. Each coat should be about 3mm thick. When the second coat dries, the deck is finished with a single spraying of light-blue oil paint. It is important that the application be made in dry weather as rain may wash away the latex.

### c. Qualities

An experimental single-coat application of this material was made on the

KATSURAGI (CV). A sample from the KATSURAGI has been shipped to the Ordnance Investigation Laboratory, Indianhead, Md., marked with NavTechJap Equipment Number JE22-2003. From observation of the material on the KATSURAGI, it appeared that the material has the following disadvantages:

- (1) Anti-skid properties are mediocre.
- (2) Adhesive qualities need improvement.
- (3) The material becomes brittle and cracks.

It is doubtful if this material, at its present stage of development, would prove completely satisfactory.