

PHYSICAL PROPERTIES OF SOME LOCAL  
NETTING TWINES (WET STATE)

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FACULTY OF FISHERIES AND MARINE SCIENCE  
UNIVERSITI PERTANIAN MALAYSIA  
AUGUST, 1983



DEDICATION

With Genuine Humility, I Acknowledge Your Aid, O God !  
In The True Spirit Of Islam, I Appreciate Your Grace, O God !  
WITH ALL My Heart, I Thank You, O God !

"HIDUPLAH sebagaimana yang engkau sukai (tetapi ingat)  
bahawasanya engkau akan MATI, dan CINTAILAH siapa yang  
engkau sukai (tapi jangan lupa) bahawasanya engkau akan  
BERPISAH dengan dia, dan BUATLAH apa yang engkau kehendaki  
(tapi ketahuilah) bahawasanya engkau akan menerima  
BALASAN yang setimpal dengan nya"

and If It Is Worth Dedication,

Please Bless ..... kata-kata HIKMAH IMAM GHAZALY r.a.

It Is Dedicated To You, O God !

DEDICATION

With Genuine Humility, I Acknowledge Your Aid, O God !  
In The True Spirit Of Islam, I Appreciate Your Grace, O God !  
WITH ALL My Heart, I Thank You, O God !

Without Your Guidance And Love,  
This Work Would Not Have Been Possible,  
Were It Not For Your Help And Cause,  
This Humble Contribution Would Have Never Become A Reality,  
And If It Is Worth Dedicating,  
Please Bless It With Your Acceptance,  
It Is Dedicated To You, O God !

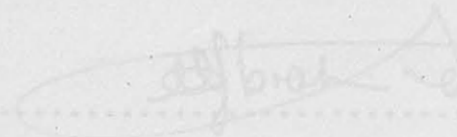
APPROVAL SHEET

PHYSICAL PROPERTIES OF SOME LOCAL NETTING TWINES (WET STATE)

This project report attached hereto, entitled  
"PHYSICAL PROPERTIES OF SOME LOCAL NETTING TWINES (WET STATE)"  
prepared and submitted by "WAN MOHD ADNAN BIN WAN IBRAHIM"  
in partial fulfillment of the requirement for the Degree of  
Bachelor of Science (Fisheries) is hereby accepted.

BY

WAN MOHD ADNAN BIN WAN IBRAHIM

  
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A PROJECT REPORT SUBMITTED IN PARTIAL FULFILMENT  
OF THE REQUIREMENT FOR THE DEGREE OF BACHELOR OF  
SCIENCE (FISHERIES)

Panel Examiner

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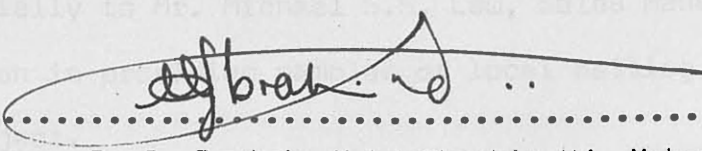
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Project Supervisor

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Panel Examiner

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Date : 1/4/83

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## ABSTRAK

Sangat sedikit yang telah diterbitkan pada dewasa ini tentang sifat-sifat fizikal utama benang-benang jaring tempatan jika dibandingkan dengan kepentingannya yang luas terhadap perusahaan perikanan di negara ini. Manusia telah mempelajari tentang benang-benang jaring tempatan melalui pengalaman-pengalaman tetapi rumusan-rumusan yang betul berdasarkan kepada data-data yang tepat dan konkrit adalah selalu tidak didapati.

Didalam projek ini, penulis akan cuba memberikan setengah daripada sifat-sifat fizikal utama benang-benang jaring tempatan dalam keadaan basah dan jadual-jadual yang menunjukkan sifat-sifat fizikal ini adalah disertakan.

Sifat-sifat fizikal utama yang penting dalam penilaian benang-benang jaring tempatan yang diukur termasuklah garis pusat (diameter), bilangan belitan (number of twist), berat basah (wet weight), halaju tenggelam (sinking speed), kekuatan tegangan (tensile strength), kekuatan pemutusan (breaking strength), jarak panjang pemutusan (breaking length), pemanjangan pada takat putus (extension at break), kekuatan pemutusan simpul (knot breaking strength) dan keanjalan dan sifat-sifat pemanjangan (elasticity and extensibility) dalam keadaan basah.



Cara-cara yang digunakan bagi mengukur sifat-sifat fizikal di atas diterangkan secara ringkas. Definisi dan istilah sifat-sifat fizikal dan cara pengukuran serta jadual penukaran sistem pengenalan benang jaring yang lama kepada sistem "tex" juga disertakan untuk tujuan lebih memahami lagi kajian yang dijalankan.

Benang-benang jaring yang dipilih adalah sesuai untuk kegunaan dalam perikanan secara komersial di negara ini termasuklah Polietilin (Polyethylene), Saran Nilon dan Nilon. Ramalan-ramalan dari segi kesesuaian benang-benang jaring tersebut terhadap tiga jenis alat menangkap ikan di negara ini dibuat. Disebabkan benang-benang jaring yang berlainan dicipta untuk berbagai kegunaan, jadi tidak semua sifat-sifat fizikal benang-benang jaring dikaji. Oleh itu jadual-jadual yang dilampirkan adalah tidak lengkap.

Penulis juga menggariskan sifat-sifat yang ideal bagi bahan-bahan sintetik untuk kegunaan dalam pembinaan alat-alat menangkap ikan yang diberikan oleh Lonsdale, (1959), yang sehingga sekarang masih belum lagi wujud.

## ABSTRACT

Very little has been published to date on the main physical properties of local netting twines, inspite of its vast importance to fishing industry in the country. People have learned about local netting twines by experience but definite conclusions based on exact and concrete data are not always available.

In this project, the author attempts to bring out some of the main physical properties of local netting twines under wet state and tables showing the physical characteristics in the wet state are given.

The main physical properties of primary importance in the evaluation of netting twines considered include diameter, number of twist, wet weight (water absorption), sinking speed, tensile strength, breaking length, breaking load (unknotted), knot breaking strength, extension at break and elastic recovery under the wet conditions.

The test procedures used to measure the physical properties above are briefly described. Definations and terms of the physical properties and testing methods are given for the proper understanding of the study. Formula and conversion tables from the conventional system of numbering netting twines to tex-system are also included.

The materials tested, in forms are generally suitable for use in commercial fishing gears in the country include Polyethylene (PE), Saran Nylon (Polyvinylidene Chloride + Poluamides) and Nylon and an estimate is generally made on the suitability of the materials to three main types of fishing gears in the country. Because different materials were designed for different applications, not all physical properties of the materials are measured, and the accompanying tables is therefore not complete.

The author also outlines the desired characteristics of the ideal synthetic materials for use in fishing gear given by Lonsdale, (1959) which at the moment does not exist.

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