COURSE TITLE: FISH GEAR DESIGN AND PRODUCTION

COURSE CODE: FIS 304

COURSE UNITS: 3

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Definition of Common Terms in Fishing Gear Technology

The Terms:

1. Fisheries
2. Fishery
3. Fishing
4. Fishing technology
5. Mesh (and types)
6. Mesh size
7. Fisherman's needle
8. Webbing/Netting
9. Bar length
10. knots

TWINE WORK

Tools for making nets:

a. Needle: It is used to hand-knit webbing. It can be constructed by using materials like wood, plastic and metal.

b. Mesh gauge: It is helps to make equal-sized meshes during knitting.

   Width of gauge (G_w) = (M/2 – 2T)

   where M = desired mesh size

   T = thickness of gauge

c. Sharp knife: Needed for trimming and cutting of knots preferably pocket knife.

CLASSIFICATION AND TYPES OF FIBRE

Types of fishing fibers:

Natural fibers : Thy are fibers obtained from plants and animals. They are predominantly vegetable fibres.

Their characteristics and examples (e.g. coir, manila etc).

Preservation of natural fibers.

Synthetic fibers: They are man-made materials made from simple basic substances via chemical process.

Advantages of synthetic fibers: They are have high strengh, abrasion resistance and rot resistance.

Classification of synthetic fibers and examples of each group.

YSICAL PROPERTIES AND FORMS OF SYNTHETIC FIBRE AND STRAND SYSTEM

ical properties of synthetic fibers include the following:

sticity
aking strength
nsity
ength
*Resistance to abrasion
*Elongation
*Changes in water

MS: There are various types or forms of synthetic fibres hich provide different properties. The most common rms of synthetic fibers are:

ontinuous fiber
2. Stable fiber

AND SYSTEM:

Two-yarn system

Three-yarn system

Four-yarn system

NS AND TWINES

Fibers → Yarns → Twines

n types of twine: a. twisted
- "S" Twist
- "Z" Twist

Soft

DESIGNATION OF FISHING TWINE

ypes of numbering system:

* DIRECT METHODS: British and Metric systems
* INDIRECT METHODS : Denier and Tex systems

ndardization:

rect methods ➡ (a) British system : 840 yards = 1 pound

(b) Metric system: 1000 m = 1 Kg

direct methods ➡ (a) Denier system : A unit of denier refers to the weight in grams of 9000 meters of a yarn or single filament i.e. 1 denier = 1 g / 9000 m.

(b) Tex system : 1 tex = 1 g/ 1000 m e.g 23 tex
twine means a single yarn of
which 1000 m has a mass of
23 g. Example: 23 tex
x 3.

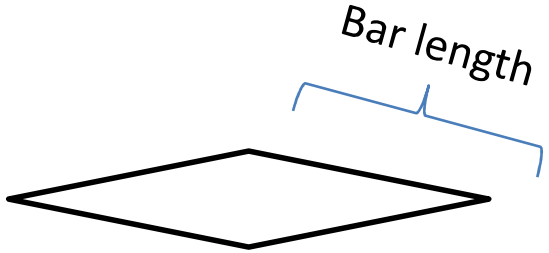
onversion from Denier system to Tex system and
ce versa.

alculation of runnage (kg/m) and twine diameter
mm)

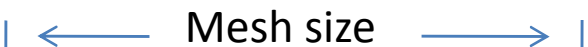
NETTING

ition: A netting is a meshed structure of indefinite shape d size composed of one yarn (monofilament) or one or ore systems of yarns joined or interlaced. It is also called ebbing' or simply 'web'.

ength: It is the distance between the center two knots easured in mm.



n size: It is the distance from the center of one knot to e center of the opposite knot when the mesh is fully etched. It is also measured in mm. 2 bar length = 1 mesh e.



rmation on the netting label:

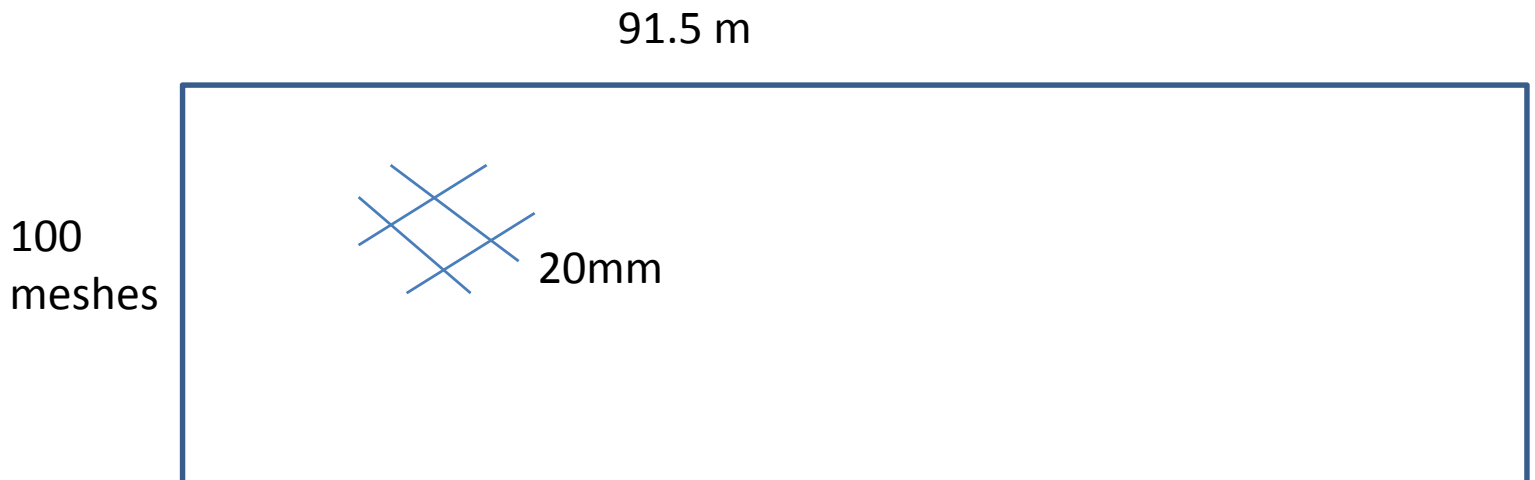
dard length = 91.5m

h = 100 meshes

e size = 210D/18

n size 20mm

ur = white



MOUNTING

nition: It is the fixing of the head, foot and sides pes (if any) to the netting. Mounting can be done th or without loops. Important factors to be nsidered include

rimary hanging coefficient = % of hanging (E_1)

ounted length/stretched length

ercentage of looseness = excess length/stretched ngth

% of hanging + % of looseness = 100%

condary hanging coefficient (E_2)

ctitious area (A_f): It is an area of unmounted
etting. $A_f = L_o \times H_o$ m^2

ere Lo = no of meshes along the length x mesh size

Ho = no of meshes along the depth x mesh size

ea of a mounted netting (A_w) is referred to as
ctual working area.

$A_w = L_w \times H_w$ m^2

ere L_w = no of meshes along the length x mesh size x E_1

H_w = no of meshes along the depth x mesh size x E_2

ing utilization coefficient (E_u) defines how well
etting materials are used in fabrication.

erials for further reading: