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FIELD IDENTIFICATION OF SYNTHETIC FIBRES USED IN FISH NETS

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Characteristics used:

General appearance -

Continuous filament - smooth surface, each filament runs the full length of the twine.

Coarse - individual filaments easily seen.

Fine - individual filaments distinguished only by close inspection.

Discontinuous (staple) fibres - dull, rough surface, fibre ends protruding, individual fibres are usually less than 4" long.

Note: All these filament or fibre types are used in laid (twisted) and in braided twines. Thus, twine construction is no indication of fibre type.

Burning properties -

The flame of a match is gradually brought closer to a cut end of the twine until the twine ignites and the following properties are noted:

(a) If the fibres shrink from the flame. The colour, shape, and consistency of any bead that forms on the end of the twine (this bead is hot and can cause a burn).

(b) How easily the twine ignites and if the twine stops burning when removed from the match.

(c) The colour of the flame and of any smoke.

(d) The burning flame is blown out (if the twine does not stop burning by itself) and the colour and odour of the smoke are noted.

Note: The presence of treating agents (e.g., tars) or other foreign matter can modify the burning characteristics.

The above properties identify the types of fibre as follows:-

1. Coarse continuous filament (e.g., Courlene)

   a. Polyethylene - shrinks from flame, bead smooth and same colour as twine, fairly easy to ignite, burns alone with blue flame with yellow tip and no smoke, extinguishes to give grey smoke and "candle" smell.
   Check test: floats on water.

   b. Polypropylene - same as polyethylene except "bearing grease" smell when extinguished.

   c. Saran - shrinks from flame, fairly difficult to ignite, bright yellow flame with orange tip and green edges and bottom, some "spurting", self-extinguishing with puff of blue smoke and "hyacinth" odour, leaving crisp black bead.
   Check test: heaviest synthetic fibre in water.

   d. Nylon - coarse filament not usually found in trawls but being used in monofilament gill nets. See 2.a. for test.

2. Fine continuous filament (e.g., most nylon)

   a. Nylon - shrinks from flame, forms brown bead with some froth, fairly difficult to ignite, blue flame with bright yellow tip and orange edges, sometimes burns alone but without smoke, extinguishes with blue-grey smoke, and "celery" smell.

   b. Polyester - shrinks from flame faster than nylon, forms brown bead with grey smoke but without froth, fairly difficult to ignite, bursts into bright yellow flame with orange tip and black smoke, sometimes burns alone, extinguishes with blue-grey smoke and "burning paper" smell.

   c. Polypropylene - shrinks from flame like nylon, forms light grey bead, fairly easy to ignite, burns alone with blue flame with yellow tip but without froth or smoke, extinguishes to give light grey smoke and "bearing grease" smell.
   Check test: floats on water even when thoroughly soaked.

   d. PVC (low strength) - shrinks from flame, forms irregular bead, fairly difficult to ignite, burns with bright yellow flame with orange tip and green base and with thick blue-black smoke and spurting, self-extinguishing with blue-grey smoke and "melting solder" smell, leaves charred black bead.

   e. Rayon (low strength) - burns without shrinking or bead formation, ignites readily to orange-yellow flame, must be extinguished giving wisps of blue smoke and "burnt paper" odour.

   f. Acetate (low strength) - forms bead, ignites readily and burns quickly and alone with yellow flame with mauve or blue base but without smoke, extinguishes to give wisps of blue smoke and a "vinegar" odour.

   g. Vinal - see 3.d. for burning test.

   h. Glass fibre - does not burn.

3. Discontinuous fibres (like cotton)

   a. Staple (or spun) nylon - see 2.a. for burning test.

   b. Staple (or spun) polyester - see 2.b. for burning test.

   c. Staple (or spun) polypropylene - see 2.c. for burning test.

   d. Vinal - shrinks from flame, forms white bead, ignites readily and burns quickly with yellow flame with blue base but no smoke, extinguishes with grey smoke and "burned cloth" odour leaving a yellow-brown bead.

4. Textured and combination twines - smoother than 3. but rougher than 2.

   a. Textured nylon (Taslan, Goldspun) - see 2.a. for burning test.

   b. Combination nylon (fine continuous filament and staple yarns laid together) - untwist the twine and test the continuous filament yarns and staple fibre yarns separately as per 2.a.

   c. Nyak (fine continuous filament nylon and staple acetate yarns laid together) - proceed as in 4.b., testing the continuous filament yarns as per 2.a. and the staple fibre yarns as per 2.f.

   d. Marlon (fine continuous filament nylon and staple vinal yarns laid together) - proceed as in 4.b., testing the continuous filament yarns as per 2.a. and the staple fibre yarns as per 3.d.

CLASSIFICATION OF MATERIAL TRADE NAMES CURRENTLY USED IN TRAWLS

Type	Trade Names	
	Maritimes	Other countries
Polyethylene	Courlene, Drylene, Drumlene, Nymplex	No additions
Nylon	Nylon, Ansalon	Perlon, Amilan, Gold Spun
Polyester	Terylene, Dacron	Tergal
Polypropylene	Ulstron, Drumfil	No additions
Combined twines	Nyak	Livlon, Marlon
Vinal		Manryo, Kuralon, PVA
Saran		Saran, Kurehalon
PVC		PVC, PeCe, Teviron