DIVERSIFIED FISH PRODUCTS

*** BATTERED AND BREADED PRODUCTS**

- FISH FINGER
- FISH CUTLET
- FISH WAFER
- FISH SOUP POWDER
- IMITATION PRODUCTS



SI. No.

VALUE ADDED FISHERY PRODUCTS

Breaded and battered products (including fried) 1) Shrimp breaded and battered 2) Squid breaded and battered 3) Cuttlefish breaded and battered 4) Octopus breaded 5) Clams breaded 6) Breaded fish fingers 7) Breaded crab cakes	the product shall be a minimum of 40% by weight or the minimum specified by the buyer whichever is higher. The net weight of the primary pack shall not exceed 2 kg.
Surimi based products 1) Surimi products (Analogues)	Surimi based products such as Fish sausage, fish ham, kamaboko and analogues - surimi content shall be not less than 60% or the minimum specified by the buyer whichever is higher. The net weight of the product in the primary container shall not exceed 2kg.

- Shrimp products :
- Breaded shrimp can be prepared both from wild as well as cultured shrimp
- peeled and deveined, butterfly, round tail-on and cooked and peeled are coated with batter and bread crumbs.
- flash fried for 20 seconds at
- 180°C in refined vegetable
- oil.
- frozen and packed in IQF
- form



- Squid products.
- Squid Rings
- Cleaned squid tubes are cut in the form of rings,
- cooking in boiling brine (3%) for 1–2 minutes,
 cooled, breaded and battered.
- The battered rings are flash fried at 175–180°C for 20 seconds, cooled, frozen and packed.
- Stuffed Squid
- Stuffed squid is prepared from small squid not generally processed for export.

- The cleaned tubes of squids are filled with a stuffing mixture prepared using cooked squid tentacles, potato, fried onion, spices etc.
- Stuffed squids are then battered, breaded and flash fried.

Coated squid rings

• Cleaned squid tubes are cut in the form of rings, cooked in brine, cooled, battered and breaded. These are then flash fried, cooled, packed and frozen.

Coated squid ring



- Coated fish balls
- Balls can be prepared by
- different ways. The simplest
- method is by mixing the fish
- mince with starch, salt and
- spices.



- This mix is then made into balls and cooked in boiling 1% brine. The cooked balls are then battered and breaded.
- Bivalves.
- Live mussel, clams, oysters can be depurated and the meat is shucked out through boiling.
- The shucked meat is blanched in brine, cooled, battered, breaded, flash fried and packed.

- Fish wafer .
- Cooked meat is ground thoroughly with water for 1 hr. to get a good paste.
- Grinding continued after adding starch & some more water until a slurry of proper concentration is obtained.
- Slurry is spread in aluminium tray to a thickness of 2 mm.
- Steamed for 10–15 min.
- Layers are cut into desired shape and dried under sun/mechanical dryer to a moisture level of 6%.

- The product obtained is packed in polythene bags.
- Wafers are fried in edible oil before use.
- Fish soup powder .
- Fish mince cooked.
- Ground well with sufficient water to get a paste.
- Ingredients are added & grinding continued another half an hr.
- Thick paste obtained is spread in a tray (12-25 mm)
- Dried under vacuum to moisture level 5–6% or less.

- Dried cake pulverized to fine powder.
- Sieved to remove large particles.
- Fine powder is mixed well with milk powder in a blender.
- Packed in glass bottle/laminated pouch.
- 5 gm of soup powder is sufficient to get one cup (150 ml) of soup.
- Has excellent fish flavor & high consumer acceptability.
- Quality can be enhanced if the paste is subjected to freeze drying.

- Stretched shrimp (Nobashi) -
- Increasing the length of peeled and develed shrimp and minimizing its curling by applying pressure using simple mechanical device
- Washing in chilled water containing 5 ppm chlorine, beheaing, deveining using bamboo stick and peeling keeping the last segment and tail intact.
- tail is trimmed and the shrimp is stretched using a metallic stretcher.
- 2–3 parallel cutting at the bottom side.
- Packed in thermoformed container under vacuum
- Freezing at 40°C

IMITATION PRODUCTS

- Imitation seafood products, or seafood analogs, are a fast growing segment of the food product industry.
- less expensive or underutilized fish or seafood varieties are converted into products with the form and taste of more desirable seafood varieties.
- seafood analogs are those derived from surimi.
- surimi is ground or minced into a finely comminuted paste in the presence of salt,
- surimi turns into a sticky paste having gel-forming characteristics aids in extracting insoluble proteins

- from the muscle fibers.
- When heated, the proteins thus extracted into the paste will denature and form a gel.
- The final shape of the product is thus dictated by whatever mold or form it occupies at the point when the surimi paste is solidified.
- Surimi-based pastes are often used in forming seafood analogs for its gel forming ability that it can be molded or formed into virtually desired shape.
- Thus, the naturally occurring forms and textures of many types of seafood products can be duplicated, particularly those of shell fish.

- surimi pastes form gels upon heating, easily moulded to imitation product into desired shape.
- The final product is a gel, naturally has a rubbery or chewy feel.
- This limits the usefulness
 of such processes for
 duplicating fish products



 Desirable to use a fish without a strong flavor of its own, so that the flavor of the final product can be controlled,

- Different analog products from fish or shell fish .
- A meat analogue, also called a meat substitute, mock meat, faux meat, or imitation meat, approximates the aesthetic qualities i.e. texture, flavor, and appearance and/or chemical characteristics of specific types of meat
- Surimi, a ground fish paste with flavorings, is used to make products such as <u>imitation crab meat</u>, imitation shrimp meat.
- Fish Analog Products are designed as a convenient and nutritionally complete alternative to feeding frozen fish

- Fish Analog is designed to provide a replacement for low fat fish, or an option to reduce dietary fat levels, a suitable replacement for shellfish and squid, a suitable replacement for high fat fish.
- In the West, surimi products usually are imitation <u>seafood</u> products, such as <u>crab</u>, <u>abalone</u> shrimp, calamari, and scallop.



 Crab sticks (imitation crab meat, seafood sticks, krab) are a form of kamaboko, a processed seafood made of finely pulverized white

fish flesh (surimi), shaped and cured to resemble crab leg meat.

- Japan first produced and patented crab sticks in
- 1973, as **Kanikama**.





- Individual sticks in many forms are coloured red or yellowish red on the outside, with a rectangular cross-section or a cross-section fibre showing white inside meat
- The texture is rubbery, with a salty taste and smell similar to steamed crab.

