Fabric Types

The Fabric Type is the primary definition of a STARFISH Model.

In STARFISH, a Fabric Type is defined by its knitted construction and referred to by a name that describes that construction. The current version of the STARFISH software can make predictions for eight basic Fabric Types. All of the Fabric Types are produced on circular, weft knitting machines.

Only one Fabric Type or Model can be Active at a time. The selection of a new Fabric Type opens the Current or "Last Active" Model for the selected Fabric Type in the Prediction Window: View By Quality.

If the Fabric Type has not been used previously then the "Last Active" Model is the same as the Default Model.

Fabric Type Definitions

In STARFISH, a Fabric Type is defined by its knitted construction and referred to by a name that describes that construction.

The current version of the STARFISH software can make predictions for eight basic Fabric Types. All of the Fabric Types are produced on circular, weft knitting machines.

The fabric descriptions are generic since, throughout the world, fabric structures are known locally by different names. Therefore, it is important to check the fabric construction details to be sure that the appropriate Fabric Type is chosen.

The Fabric Types provided are

- Interlock
- 1x1 Rib
- 2x2 Rib
- Plain Single Jersey
- Double Crosstuck
- Single Crosstuck
- Six-thread Crosstuck
- Two-thread Fleece

Interlock

A weft knitted, double-faced, rib-based fabric formed from two 1x1 rib fabrics joined by interlocking sinker loops.

Interlock is made on circular machines that have two sets of opposed needles, one set located in a dial, the other in the cylinder. Alternate needles knit and miss on dial and cylinder alternately.

Interlock repeats over two feeders knitting in the following sequence:

Feeder 2

Feeder 1

● = needle not knitting; ♔ = a knit stitch

Rib

A weft knitted fabric in which both back and face loops occur along the course, but in which all the loops contained within any single wale are of the same type, i.e. back or face loops.

Rib Fabrics are made on circular machines having two sets of needles. One set in the cylinder, the other in the dial. The two sets of needles are offset.

1x1 Rib

A rib fabric in which single wales of face (plain) loops alternate with single wales of back (rib) loops.

The following sequence shows two repeats:

Feeder 2

Feeder 1
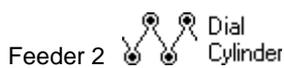
= a knit stitch

Rib 2x2

A rib fabric in which two wales of face (plain) loops alternate with two wales of back (rib) loops. 2x2 Rib fabrics can be made on machines having two different needle set-outs.

Swiss Rib

In so called "Swiss Rib", one third of the needles in cylinder and dial are taken out of action in a 2/1 sequence. Thus in each repeat two needles knitting are followed by one needle out of action. This is probably the most common form of needle set out for the production of 2x2 Rib fabrics on Rib Machines.

Swiss Rib is also often described as 2/1 Rib to indicate the actual number of needles knitting compared to the number of needles out of action per repeat.

Feeder 2

Feeder 1
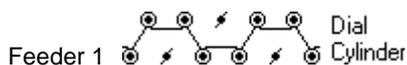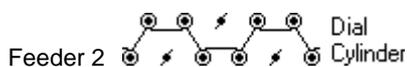
= needle out of action; = a knit stitch

English Rib

In so called "English Rib", fifty percent of the needles in cylinder and dial are taken out of action in a 2/2 sequence. Thus, in each repeat two needles knitting are followed by two needles out of action.

Feeder 2

Feeder 1
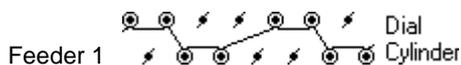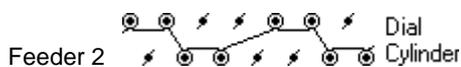
= needle out of action; = a knit stitch

Important Note

It is very important to specify correctly the needle set-out being used since the actual number of needles knitting is calculated automatically by STARFISH from the total number of needles stored in the Machines Database Record on the basis of the specified needle set out.

STARFISH Model Environment
Fabric Types

Plain Single jersey

Single Jersey is a generic term applied to weft knitted fabrics made on a single jersey weft-knitting machine having one set of needles.

Plain Jersey is the simplest weft knitted structure where every course or horizontal row of loops is made by one yarn knitting on all needles.

The following sequence shows two courses

Feeder 2   ⊕⊕⊕⊕
Feeder 1   ⊕⊕⊕⊕

⊕   = a knit stitch

Other single jersey fabric constructions available in STARFISH are Single Crosstuck, Double Crosstuck, Six-thread Crosstuck and Two-thread Fleece.

Single Crosstuck

Single Crosstuck repeats over four feeders knitting in the following sequence:

Feeder 4   ⊕⋒⊕⋒
Feeder 3   ⊕⊕⊕⊕
Feeder 2   ⋒⊕⋒⊕
Feeder 1   ⊕⊕⊕⊕

⊕ = a knit stitch: ⋒= a tuck stitch

Double Crosstuck

In STARFISH, Crosstuck is the name used to describe weft knitted, Single Jersey constructions where tuck loops alternate with knitted loops within the same course and between one course and another. These constructions are often called piqué or Lacoste.

Double Crosstuck repeats over four feeders knitting in the following sequence:

Feeder 4   ⊕⋒⊕⋒
Feeder 3   ⊕⋒⊕⋒
Feeder 2   ⋒⊕⋒⊕
Feeder 1   ⋒⊕⋒⊕

⊕ = a knit stitch: ⋒ = a tuck stitch

Six-thread Crosstuck

Six-Thread Crosstuck repeats over six feeders knitting in the following sequence:

Feeder 6   ⊕⋒⊕⋒
Feeder 5   ⊕⋒⊕⋒
Feeder 4   ⊕⊕⊕⊕
Feeder 3   ⋒⊕⋒⊕
Feeder 2   ⋒⊕⋒⊕
Feeder 1   ⊕⊕⊕⊕

⊕ = a knit stitch: ⋒= a tuck stitch

Two-thread Fleece

A Plain Single Jersey fabric containing non-knitting yarns laid-into the structure by tucking and missing on alternate feeders. The pattern repeats over four feeders and four needles.

The sequence of tucking and missing by which the laid-in yarns are held in position in the fabric may be staggered or arranged diagonally. The number of miss stitches between each tuck stitch can be between one and three.

e.g. 3 x 1 Staggered Inlay (one repeat)

Feeder 4 ⊗⊗⊗⊗
Feeder 3 ⋔⊗⋔⊗
Feeder 2 ⊗⊗⊗⊗
Feeder 1 • •⋔•

⊗ = a knit stitch; • = a miss stitch; ⋔ = a tuck stitch

These fabrics can be either brushed during finishing or left unbrushed when they are often referred to as loop-back fabrics.