Composite Reinforcement Materials

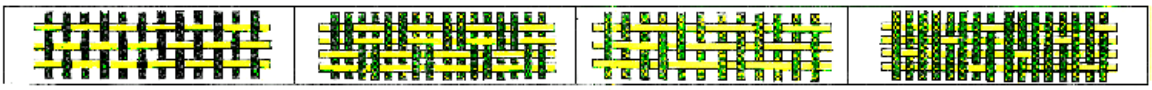
Meury can supplies a diverse range of textiles for use in composite reinforcement. Currently providing materials into industries as diverse as marine, aeronautical, transport and recreation.

Fabrics types available:

-Carbon
-Glass
-Aramid
-Hybrids of the above

Difference between standard weaves

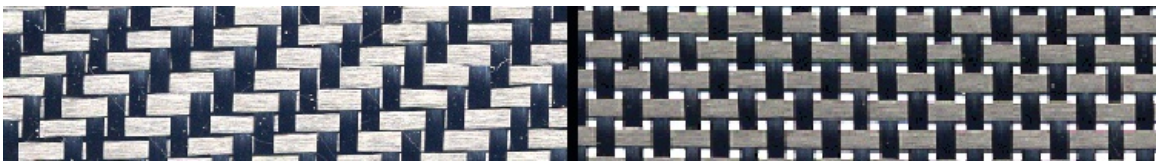
Plain Weave	Basket weave	Twill Weave	Satin Weave
Single warp end weaves over and under the next warp. This weave is firm and stable, uniform in strength in all directions.	Constructed with two or more warp ends weaving over and under the same number of weft threads. This produces a fabric with increased strength.	Constructed with one or more warp ends weaving over and under two or more weft threads in a regular fashion. This weave is more pliable than plain weave and improves the folding, hanging and draping capacity for better coverage over curved surface.	Each warp and weft thread weaves over 3 or more, and then under one crossing thread. This weave shows excellent pliability and drapability over compound curves. This weave allows high strength in all surface directions and high fabric densities.



Carbon Fibre Fabrics

There are a number of carbon fibre tapes and fabrics. We have a range of plain and twill weave fabrics, unidirectionals and pre-preg products for finished laminates requiring high strength-to-weight and stiffness-to-weight ratios.

Carbon Fibre cloth in Twill weave plain weave



E-Glass

E-glass is by far the most widely used composite reinforcement due to its relativly low cost. Also know as electrical grade or low alkali. **S-Glass** exhibits higher strength grade than the similar E-glass.

Woven yarn vs Woven rovings: Yarn based fabrics generally give higher strengths per unit weight than roving, and are generally finer fabrics, being found at the lighter end of the weight range. Woven Rovings are less expensive to produce and can be wet out more efficiently, however only found in the medium to heavy weight range.

woven rovings 4x4 Twill

E-glass: Woven yarn

Aramid Fabrics

We have a number of Aramid fabrics suitable for high strength, impact resistance and low weight applications. However this fabric is often combined with glass or carbon fiber due to its low compressive strength. Our range of Aramid fabrics are constructed using various weave patterns to suit your application. This fabric has a characterized by its yellow-gold colour and is marketed as KEVLAR 49[2] and TWARON HM[3].

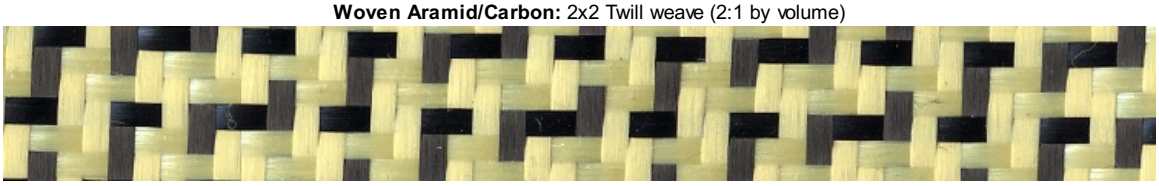
Woven Aramid: Kevlar 49 5H Satin weave

Hybrids

There is also a range of fabrics that combine the best properties of the above fabrics and bring them into a single fabric. Some examples are:

Carbon/Aramid, Aramid/Glass, Carbon/Glass

Woven Aramid/Carbon: 2x2 Twill weave (2:1 by volume)



Multiaxials

These fabrics comprise one or more layers of fibres with varying orientation that are stitched together with a lightweight polyester thread. Multiaxial (stitched) fabrics are designed for use with polyester and epoxy resin systems and are used to produce high performance laminates. Cost savings can be derived from reduced resin usage (normally 1:1) and reduced fabric lay-up times. This provides maximum strength in a specific direction and most commonly used in a carbon fibre form.

The main styles of fabric are: