

BROADWOVEN END-USE PRODUCTS IN TECHNICAL TEXTILES WORLD MARKET FORECASTS TO 2010

PRODUCED FOR:
DRA Limited

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1. OVERVIEW

1.1 BROADWOVEN TECHNICAL TEXTILES: A SECTOR UNDER PRESSURE

THIS SECTION PROVIDES AN OVERVIEW OF THE MAIN FINDINGS OF THE REPORT

1.2 BROADWOVEN TECHNICAL TEXTILES DEFINED

In this report broadwovens are defined as any fabric woven at a width of more than 30 centimetres. Based on this definition, virtually all flat woven fabrics for technical applications are regarded as broadwoven with the exception of webbings and strapping for a number of applications (such as seat belts and harnesses and a small number of other narrow woven products such as bandages and garment labels). With specific regard to belting, all conveyor belting is assumed to be broadwoven while all drive belts are assumed to be narrow woven (or braided).

Definitions of "technical textiles" are, inevitably, somewhat arbitrary. In this report technical textiles are defined as comprising all those textile-based products which are used principally for their performance or functional characteristics rather than for their aesthetics, or are used for non-consumer (i.e. industrial) applications. Hence the definition does not depend on the yarn or fibre used, but on the end-use of the product itself. A more detailed definition of technical textiles is provided in Appendix 1.

1.3 AIMS OF THE REPORT

The main aims of this report are as follows:

- i) to provide a comprehensive and detailed analysis of the current world market for broadwoven technical textiles by individual end-use product
- ii) to provide estimates of current end-use consumption levels for 68 separate broadwoven end-use products by region and by physical make-up (fibre type, yarn type, coating type)
- iii) to provide forecasts of consumption by product by region to 2010 at the same level of detail, based on a well defined and internally consistent set of assumptions, in order to provide a clear picture of future broadwoven technical textile markets.

The report does not describe individual companies or their activities.

This information on the most important features of the broadwoven technical textiles market currently and up to 2010 is expected to be useful to the following types of organisations:

- Weavers already operating in the sector

- Companies who would like to be in the broadwoven technical textile industry
- Producers of the polymers and fibres used by the woven technical textile industry
- Suppliers of textile chemicals to the woven technical textile industry: process chemicals, coating compounds, adhesives, effect chemicals, etc
- Manufacturers of weaving machinery
- Converters and other downstream processors of woven fabric
- Weavers' trade associations
- Ultimate commercial end-users of products containing woven fabrics.

1.4 THE SOURCE OF THE FORECASTS

The product detail and market forecasts in this report are based on DRA's proprietary system for describing and forecasting world end-use markets for textile products. Details of this Textile Products End-Use Consumption Forecasting System are given in Appendix 2.

The databases and the model included in this consumption forecasting system have been set up to handle a high level of product and market detail. In practice the physical make-up of some 150 individual end-use products in total (including 68 broadwoven products) included in the technical textiles partition of the consumption forecasting system, is analysed across 210 individual country markets into:

- 19 individual polymer/fibre types (e.g. cotton, viscose, polyester, etc)
- 8 forms of polymer/fibre used (e.g. unspun fibre, spun yarns, tape yarns)
- 19 different final textile product types (e.g. narrow woven fabrics, warp knits, dry-laid nonwovens)
- 4 coating types (plus uncoated).

Complete lists of all 150 technical textile products and the other variables contained within the DRA consumption forecasting system are given in Exhibits A2.1 and A2.2 in Appendix 2.

1.5 BROADWOVEN PRODUCTS INCLUDED IN THIS REPORT

Each of the 68 individual end-use technical textile products in which broadwoven fabrics are used has been assigned to one of the relevant 12 application areas as defined by Messe Frankfurt, the organisers of the Techtextil Shows and described in Exhibit A1.1, Appendix 1. A list of the products which use broadwoven fabric, together with their application area and brief product description, is provided in Exhibit 1.1, below.

Exhibit 1.1**List of the 68
Broadwoven
End-Use Products
Covered in this
Report, with
relevant
Application Area**

Application Area and Broadwoven Product	Product Description and Function
Agrotech: Woven crop cover, protection	General agricultural, horticultural wovens for protection: wind-breaks, ground matting, tobacco cloth, etc (inc. tarpaulins)
Buildtech: Tarpaulins	Heavy woven fabrics for protection and storage applications
Buildtech: Textile structures	Heavy woven fabrics for marquees, tenting, roofs, etc - including architectural membranes
Buildtech: Awnings, canopies	Woven fabrics for commercial and industrial awnings and canopies
Buildtech: Roofing felts	Fabrics, impregnated with bitumen or similar, for use as roofing felts (flat roofs and underlay). Sewer linings.
Buildtech: Woven roofing	Fabrics for use as substrates in single ply roofing
Buildtech: Roof scrims	Support for nonwovens (e.g. felt) and for PVC coating, for use on roofs
Buildtech: Hoardings	Fabrics for billboards, hoardings, mostly for advertising.
Buildtech: Scaffold nets	Scaffolding nets to protect against falling debris; façade netting with or without printed advertising
Buildtech: Housewrap	Membranes for insulating houses, some breathable
Buildtech: Composites	Fibre reinforced plastic for building components, shower trays, swimming pools, wind blades, etc. Scrims for concrete reinforcement
Clothtech: Interlinings, woven	Woven fabrics used to provide support and structure to garments
Clothtech: Labels	Printed and woven labels for all applications
Geotech: Ground stabilisation	Geotextile fabrics for stabilisation, separation, drainage
Geotech: Soil reinforcement	Geotextile fabrics for reinforcement of soil
Geotech: Pit linings	Geotextile fabrics for lining waste ponds, pits, landfill, etc
Geotech: Erosion control	Geotextile fabrics for erosion control
Homotech: Woven wipes	Cleaning wipes for domestic applications in woven form
Homotech: Pillow tickings	Tickings for filled products (pillows, duvets, cushions)
Homotech: Mattress tickings	Outer fabrics for wrapping mattresses
Homotech: Mattress spring wrap	Fabrics used to wrap springs in sprung beds
Homotech: Platform cloth	Fabrics used as a base for cushions on upholstered furniture
Homotech: Dust cloths	Fabrics attached to base of furniture
Homotech: Other furniture components	Skirt linings and other fabrics for use in upholstered furniture, bedding etc, not elsewhere specified
Homotech: Woven carpet backings	Woven fabrics used as a primary or secondary backing for tufted carpets (excluding ground yarns for woven carpets)
Indutech: Conveyor belt	Woven fabrics for conveying and speciality applications
Indutech: Hoses	Braids, woven fabrics used to reinforce rubber and polymer hoses for industrial applications
Indutech: Abrasives	Fabrics for a variety of polishing and abrasion applications
Indutech: Woven wipes	Cleaning wipes for industrial applications in woven form

continued...

**Exhibit 1.1
(cont.)**

List of the 68
Broadwoven End-
Use Products
Covered in this
Report, with
relevant
Application Area

Application Area and Broadwoven Product	Product Description and Function
Indutech: Woven filters	All woven filters for use in industrial applications
Indutech: Papermaking felts	Batting and support elements of press, forming and drying fabrics (or felts) in papermaking
Indutech: Battery separators, etc	Fabrics for battery separators, floppy disc liners, transformers, etc - excludes PCBs
Indutech: Electrical composites	GRP composites for electrical applications, including PCBs and other producer durable equipment
Indutech: Misc. coated fabrics	Heavy coating substrates for covers and miscellaneous applications such as storage (silos), military, oil booms, etc
Medtech: Woven gowns, drapes	Patient and surgeon gowns, drapes and garments used in surgical and other medical situations (excluding nurse-type garments)
Medtech: Woundcare woven	All medical wovens such as bandages and dressings, gauze, slings, etc
Medtech: Medical mattresses	Waterproof coated fabrics for mattresses
Mobiltech: Car tyre cord	Fabric for reinforcement of car tyres
Mobiltech: CV tyre cord	Fabric for reinforcement of tyres other than for cars
Mobiltech: Auto hose	Fabric for reinforcement of automotive hoses
Mobiltech: Air bags	Fabric for reinforcement of automotive safety air bags
Mobiltech: Woven trim	Woven automotive trim: boot liners, head liners, shelving, door panels, etc
Mobiltech: Upholstery	Woven automotive seating face and backing fabric
Mobiltech: Truck covers	Heavy woven fabrics for truck covers, curtain-sides and other protection and storage applications (e.g. ships' hold covers)
Mobiltech: Transport composites	FRP for use in cars, trains, buses (mostly components, aerofoils, spoilers, seats) etc
Packtech: FIBC big bags	Flexible Intermediate Bulk Containers ("Big Bags"), laundry bags and other bulk packaging products
Packtech: Sacks	Sacks for storage, etc
Packtech: Misc. woven packaging	Miscellaneous woven packaging items such as lightweight mail-bags, fibre strapping
Protech: FR clothing	Fabrics for use in clothing worn to protect against flame and heat
Protech: NBC	Fabrics to protect against nuclear, biological and chemical exposure
Protech: Cut, slash protection	Fabrics for garments and gloves used to provide protection from knives, glass or other sharp implements; chain saw protection
Protech: Ballistic protection	Fabrics designed to deflect or absorb impact of bullets, etc
Protech: Dust protection	Lightweight barrier fabrics for garments worn to provide protection against dust or other particulate matter
Protech: Durable chemical protection	Fabrics for durable garments and gloves worn to provide protection against harmful chemicals and gases
Protech: FWC	Fabrics for foul weather clothing using coating or laminates, for all end uses
Protech: Hi-vis	Fluorescent and phosphorescent (not retro-reflective) fabrics for gilets, trousers, etc (excludes FWC)

continued...

**Exhibit 1.1
(cont.)**

List of the 68
Broadwoven End-
Use Products
Covered in this
Report, with
relevant
Application Area

Application Area and Broadwoven Product	Product Description and Function
Sporttech: Boat covers	Boat covers and other fabrics used to provide protection from adverse weather on pleasure craft
Sporttech: Bookcloth	Substrate for leather-type covering of hard backed books
Sporttech: Shopping bags	Outer fabrics plus substrates for soft sided shopping and other small bags, carriers, etc (excluding handbags, leathersgoods)
Sporttech: Artificial leather substrates	Coating substrates for artificial leather handbags, luggage, small goods
Sporttech: Sports bags, luggage	Face fabrics and substrates for soft sided luggage, bags for carrying sports gear, rucksacks
Sporttech: Sailcloth	Fabrics used in mainsails, foresails and spinnakers
Sporttech: Artificial turf	Material used to provide surface for sporting activities
Sporttech: Equipment composites	Materials used in the production of skis, racket frames, canoes, jet-skis
Sporttech: Air sport fabrics	Fabrics for balloons, kites, para-gliders, parachutes
Sporttech: Tents	Fabrics for use in lightweight, portable tents for personal camping/sleeping purposes
Sporttech: Sleeping bag fabrics	Outer fabrics for sleeping bags
Sporttech: Flags	Fabrics for flags, pennants, bunting, for parades, shows, etc.
<i>Oekotech: Housewrap (Buildtech), Erosion control (Geotech), Pit linings (Geotech), Woven filters, (Indutech)</i>	<i>Products extracted from the above list that are used for environmental control purposes</i>

Source: DRA

1.6 LEVELS OF DETAIL IN THIS REPORT

Not all variables included in the DRA consumption forecasting system are relevant to broadwovens. Hence, in this report, the physical make-up of each of the 68 broadwoven products listed in Exhibit 1.2 is analysed in terms of 16 fibre types, 5 yarn types and 5 coating types as shown in Exhibit 1.2. Also, for the sake of conciseness, the 210 countries in the consumption forecasting system have been condensed into 8 regions.

Exhibit 1.2
Reporting Levels used in this Report

Regions	Fibre/Polymer Types	Yarn Types	Coating Type
N America	Cotton	Spun staple	Uncoated
S America	Wool	Textile (regular tenacity) multifilament	PVC coated
W Europe	Other natural fibres	Industrial (high tenacity) multifilament	PU coated
E Europe	Viscose	Monofilament	Rubber coated
S Asia	Polyester	Tape/Slit Film	Other coated
N E Asia	Polyamide		
S E Asia	Polypropylene		
Rest of World (Central Asia, Middle East, Africa, Oceania)	Polyethylene Acrylic Elastomeric p-aramid m-aramid Other synthetic high performance fibres Carbon Glass Steel		
Total 8	Total 16	Total 5	Total 5

Source: DRA

Further details of the variables used in this report are given in Exhibit A1.3, Appendix 1.

1.7 SCOPE AND STRUCTURE OF THE REPORT

Chapter 2: The Relative Importance of Broadwoven Fabrics in the Technical Textiles Market provides summary forecasts for the technical textiles market in total and then compares the current size and prospects for broadwoven fabrics in technical textile markets with other final textile products such as nonwovens, knits and yarn-type products.

Chapter 3: Broadwoven End-Use Products and Markets draws on the detailed Forecast Tables in Chapter 4 to highlight some of the important trends in broadwoven markets.

Chapter 4: Broadwoven End-Use Products: Detailed Forecast Tables. This Chapter provides a set of 41 Tables of forecasts drawn from the DRA consumption forecasting system analysing in great detail the world market for broadwovens from 1995 to 2010. These tables are split into 6 parts:

Part A consists of **10 Summary Tables**, which provide an overview of the broadwovens market worldwide over the period 1995-2010. The Tables split total world broadwoven consumption by individual product, by application area, by region, by fibre type, by yarn type and by coating type.

Parts B to E provide a detailed analysis of **68 individual broadwoven products** with consumption forecasts to 2010:

- Part B (18 Tables) shows the consumption of each product across **8 regions** in 2000 and 2010 and for each of the 7 largest consuming regions for 1995 and for each year from 2000 to 2010.
- Part C (2 Tables) shows the relative importance of each of **16 fibre types** in the production of each broadwoven product for 2000 and 2010
- Part D (7 Tables) shows the relative importance of each of **5 yarn types** for the production of each broadwoven product in 2000 and 2010 and separately for 1995 and then for each year from 2000 to 2010
- Part E (4 Tables) shows the relative importance of each of **5 coating types** in the production of each broadwoven product for 2000 and 2010.

Appendix 1: Definitions and Assumptions outlines the main assumptions and definitions underlying the projections in this report and provides a description of the main table formats used to present the forecasts.

Appendix 2: The DRA Textile Products End-Use Consumption Forecasting System describes the consumption forecasting system developed by David Rigby Associates which is the basis of the volume and value estimates presented in this report.