

Nonwovens

Sector report
January 2010



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Industrials

Nonwovens

The past two years have undoubtedly been difficult for nonwoven producers. However, with the best time to invest in cyclical stocks the bottom of a demand cycle and when confidence is rising, we suggest that now may be a good time to examine the sector. We believe that while demand growth is not expected to be strong in 2010/11, a combination of slowly improving European demand and firm Asian demand points to increased investor interest in this market.

Growth driven by developing economies

Not surprisingly the biggest drivers to growth are developing nations, particularly China, which is experiencing a rapid increase in demand for both Hygiene and Industrial products. We draw investors' attention to PGI, Fiberweb and AVGOL, which have manufacturing capacity in China. Other companies with large emerging market exposure include PEGAS and Providência, which are consequently able to generate higher margins. We caution, however, that both PEGAS and Providência have announced their intention to expand beyond their core markets, which could affect margins.

Industry structure: Fragmented

This is a fragmented industry with a variety of manufacturers ranging from large multinational corporations to small privately owned companies. The top seven producers account for just c 40% of the market.

Raw materials: A key variable

A key variable in the performance of nonwoven producers is raw material costs, specifically the speed at which any increase can be passed through to customers. This injects short-term volatility into margins and stock prices.

Valuation

When looking at the nonwoven industry, investors should focus on the developments of the nonwoven industry cycle and on those companies with a strong and sustainable competitive advantage based upon economies of scale, technology positions and market presence. Companies should also have good diversification into industrial markets, sound finances and good cash flow boosted by cost saving measures.

Fiberweb is a research client of Edison Investment Research Limited

January 2010

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COMPANIES PROFILED IN THIS REPORT

Ahlstrom
AVGOL
Companhia Providência
Fibertex (Schouw & Co)
Fiberweb
Freudenberg
Low & Bonar
PEGAS Nonwovens
Polymer Group Inc
Suominen

OTHER COMPANIES MENTIONED IN THIS REPORT

DuPont (DD)
John Manville (Berkshire Hathaway)
Kimberly-Clark
Royal TenCate
Thrace Plastics

Contents

Investment summary: Waiting for the bottom	3
The nonwovens market: Overview	5
Hygiene	13
Industrial	16
Competitive and company positioning	18
Sensitivities	22
Financials	24
Valuation	26
Company profiles	27
Ahlstrom	28
AVGOL	29
Companhia Providência	30
Fibertex	31
Fiberweb	32
Freudenberg	33
Low & Bonar	34
PEGAS Nonwovens	35
Polymer Group	36
Suominen	37
Appendix: Glossary	38

Investment summary: Waiting for the bottom

Introduction

This report is designed to provide investors with an overview of the global market for nonwoven fibres with a focus on polypropylene and the key end use markets of Hygiene and Industrials. Areas reviewed include growth characteristics, technology developments, the competitive landscape and future prospects. In this report we profile selected pure play investment opportunities in sector: Companhia Providência (Brazil), Fiberweb (UK), Polymer Group (US) and PEGAS (the Czech Republic). Providência and PEGAS are essentially emerging market stocks and the risk profiles of these stocks for investors is significantly different from those in traditional markets. We exclude a large number of other companies where nonwovens represent much less than 50% of group sales and companies that have limited share liquidity. There are also several mini-conglomerate, multi-industry type stocks – Ahlstrom, Low & Bonar, Suominen – with an important presence in the nonwoven market, but it is debatable whether the nonwoven market dynamics are the key drivers for these stocks.

Nonwovens: A \$20bn global industry

The global nonwoven fibres market is worth over \$20bn, according to industry association EDANA. Global volumes grew at an average annual rate of c 8% in the 1997 to 2007 decade, and in the recent downturn have slowed. Longer-term growth projections are now around 4%. The industry is highly fragmented in terms of products, end uses and suppliers, but its markets can broadly be categorised as Hygiene (essentially consumer, disposable products) and Industrial (durable products). Until 2009, Europe overall was the dominant producer and exporter of nonwoven fibres, but strong growth in emerging markets, especially in China and India, means that Asia is assuming dominance as a producing and exporting region.

Two main markets: Hygiene and Industrial

End users of nonwoven fabrics can broadly be categorised as being around two-thirds Industrial and one-third Hygiene. This split is reversed for polypropylene (PP) nonwovens where Hygiene accounts for around 65% of the market. Hygiene is typically more defensive than Industrial, its products being essential to existing markets, and enjoying above average growth in emerging markets, especially Asia, where per capita use of consumer disposables is still substantially lower than in developed markets. Industrial applications are more cyclical – the largest purchasing industry is construction, which has been impacted by the economic downturn. Other key industrial markets include filtration and automotive. In the construction industry, nonwovens are used in areas such as housewrap, geotextiles and roof lining. It is important to note that there is some blurring between these two markets, with some product categories straddling both. Wipes, for example, can be used for either consumer or industrial applications.

Industry participants: Large corporates to small and private

This is a fragmented industry with a variety of manufacturers ranging from large multinational corporations (for which nonwovens is just part of the business) to small privately owned companies. The top six producers are Freudenberg Group, DuPont, Kimberly-Clark (captive use), Ahlstrom, PGI and Fiberweb. Some companies are in both Hygiene and Industrial sectors (for

example Fiberweb). Those with significant focus or presence in Hygiene include PGI, Companhia Providência, PEGAS and AVGOL. In Industrials, in addition to Fiberweb, key players include Ahlstrom, Low & Bonar, TenCate and Thrace Plastics. Within nonwovens the largest segment is polypropylene-based and the leading international polypropylene nonwovens producers are Fiberweb, Fibertex (a division of Schouw), AVGOL, PEGAS, Providência and Polymer Group.

Investing in nonwoven fibres – timing of cycle

Nonwoven fibres are specialty products, but economic cycles do create cyclicity in demand. The typical opportunity to invest is when the bottom of a demand cycle is strongly anticipated and when confidence is rising. While recent company announcements have been mixed, a number have reported tentative signs of recovery. Fiberweb, for example, reported in its year end trading update that trading was better than expected, with volume recovery reported in a number of product categories including cyclical industrials. We believe that while demand growth is not expected to be strong in 2010/11, a combination of slowly improving European demand and firm Asian demand points to increased investor interest in this market.

Key sensitivities: Raw materials, energy and supply/demand

Key bulk raw materials include polypropylene and polyester resins. Their prices follow the oil price, with a lag, and movements can inject volatility into producer margins. In general, most producers structure the majority of their contracts to include a 'pass through' clause that smoothes the impact. Some processes are energy intensive and vulnerable to energy cost swings.

Supply/demand sensitivity is evident as new capacity, mainly in developing regions, is set to reach an already oversupplied market, although not in any scale until 2012. China and Latin America now represent around 35% of world capacity compared with just 20% in 2002. Overall, we believe capacity increases currently planned equate to only around 3% pa.

Financials: 2010 and 2011 set fair

After a very poor year corporates are now starting to report – in their year end trading updates – the glimmers of a recovery or stabilisation in business fundamentals. We believe that this fundamental recovery will be sustainable through to 2011 and possibly extending further out, especially if planned capacity expansions do not come on stream as scheduled.

Valuation: Attractive compared to other industrials

Traditional valuation metrics of EV/EBITDA and EV/EBIT suggest that the large PP nonwoven producers are trading on undemanding multiples (see page 26). The stocks also trade at favourable multiples compared with recent transaction multiples of around 0.2x sales.

Exhibit 1: Valuations of nonwoven producers

Note: EBITDA & EBIT are consensus forecasts. EV is based on most recently reported net debt figure. Prices as at 13 January 2009.

Company	Mkt Cap (m)	Net Debt (m)	EV (m)	EV/EBITDA			EV/EBIT		
				2009e	2010e	2011e	2009e	2010e	2011e
Fiberweb (£)	82.2	150	232	4.3	4.0	4.0	10.6	9.3	10.7
Pegas (€)	156.9	104	261	7.1	7.6	7.3	11.7	13.3	14.1
Suominen (€)	39.8	52	92	4.4	4.8	N/A	13.1	18.4	N/A
Providencia (R\$)	600.6	168	769	8.0	6.9	5.3	10.0	8.7	6.6

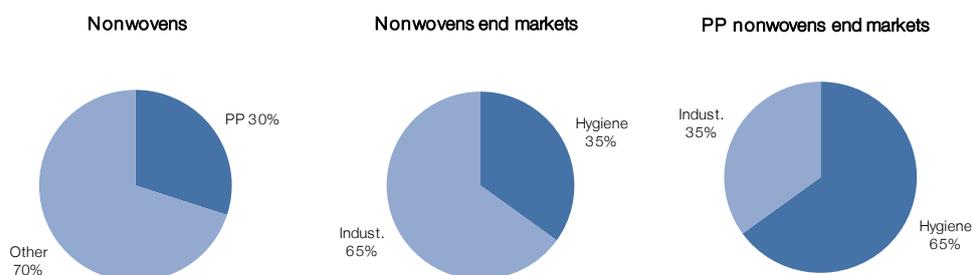
Source: Consensus estimates and Edison Investment Research

The nonwovens market: Overview

Hygiene and Industrial are the two key market segments

The global nonwovens market is worth over \$20bn with around two-thirds sold into Industrial markets and one-third into Hygiene. Nonwovens are sheet or web structures that are chemically, mechanically or thermally bonded from basic raw materials such as polypropylene, polyester, polyethylene, cellulose and others into a range of specialty products with properties such as softness, absorbency, strength, filtration and barrier (protection). Around 30% of nonwovens are based on polypropylene, with the balance from a variety of other materials including polyester. Within the polypropylene nonwovens sector, around two-thirds of sales are into consumer markets (mainly hygiene absorbent products such as nappies, and feminine and adult pads) and the balance industrial (such as construction, roofing, furniture, bedding, carpet backing, automotive, filtration, covers and packaging).

Exhibit 2: Two-thirds of PP nonwovens are in the hygiene market



Source: Edison Investment Research estimates

Key nonwoven producers

The top seven nonwoven suppliers worldwide are Freudenberg, DuPont, Kimberly-Clark, Ahlstrom, Fiberweb, Polymer Group and Johns Manville, a subsidiary of Berkshire Hathaway. These firms account for just under 40% of global nonwovens sales. The leading manufacturers are based in developed countries: DuPont, Johns Manville, Kimberly-Clark and PGI in the US, Freudenberg in Germany, Fiberweb in the UK and Ahlstrom in Finland. Over recent years new producers from developing countries have emerged. Other participants include state-owned and formerly state-owned enterprises.

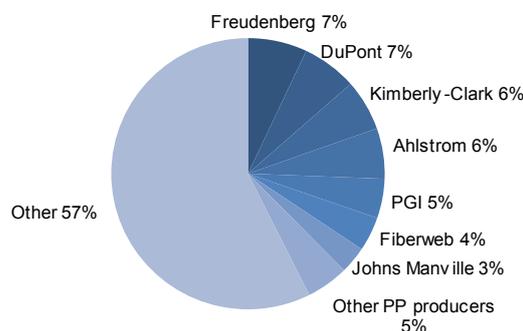
Exhibit 3: Largest global nonwoven producers by revenue (2009)

Company name	Revenue (\$)
Freudenberg	1.45bn
DuPont	1.4bn
Kimberly-Clark	1.3bn
Ahlstrom	1.3bn
Fiberweb	947m
Johns Mansville	670m
Fibertex	295m
AVGOL	254m
First Quality Nonwoven	250m

Source: www.nonwovens-industry.com

Exhibit 4: Global nonwoven producers

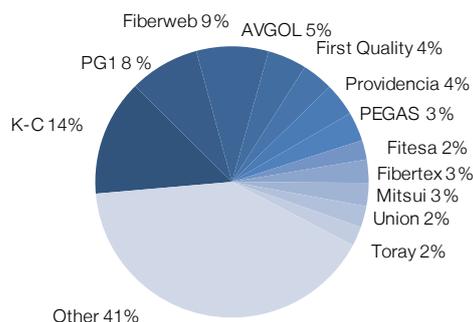
Note: Other PP producers include AVGOL, Fibertex, Providência and PEGAS.



Source: Company data, Fiberweb and Edison Investment Research

Polypropylene based nonwoven producers

The largest PP nonwoven producers are Kimberly-Clark (all for internal consumption), PGI, Fiberweb, AVGOL, First Quality, Providência, PEGAS, Fitesa (Petrobar) and Fibertex. In 2008 the largest 25 producers accounted for around 75% of the global market. Other smaller producers are primarily based in Japan, China and other Asian countries.

Exhibit 5: PP nonwoven producers

Source: Fiberweb

In developing countries, capacity is dominated by a large number of small producers, creating highly fragmented markets with no dominant producer. The exception to this is Latin America, where three players, Providência, Fitesa and PGI, dominate the market. The Middle East represents around 10% of global capacity with a number of producers but no dominant supplier. Producers include SGN in Saudi Arabia, and AVGOL and Advanced Fabrics, which have close to 25% shares of Middle East capacity.

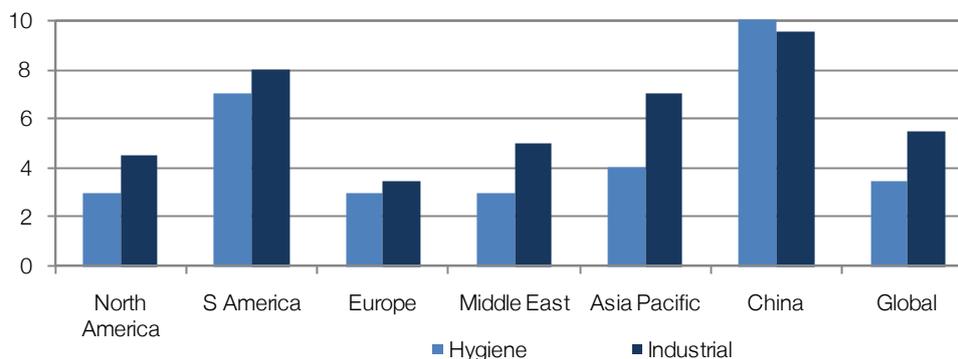
Asia-Pacific excluding China includes a high number of producers in Japan and Korea, the largest being Toray Saehan in Korea. Production in this area is equally split between hygiene and 'other markets'. China includes numerous producers that have built up capacity in recent years. Of the major producers, PGI and AVGOL have a presence. Most operate low capacity production, using inherent technology and serve both the hygiene (25%) and industrial markets (75%).

Demand trends are cyclical and vary between regions and use

Demand trends are cyclical, reflecting economic conditions. This yields two demand cycle dynamics for nonwovens, the normal cyclical response to economic cycles, and the underlying disparity between stronger growing developing market countries and more mature European and North American markets. Overall, longer-term demand growth is estimated at 4%, after a period of above-average growth in the decade to 2007 of more than 7%, reflecting increasing use as a substitute for textiles and some traditional materials or developed for completely new applications. Exhibit 6 below shows growth is expected to be led by China and South America. India, not shown separately here, is also among the fast-growing countries, driven by increasing per capita consumption of Hygiene products.

Hygiene demand is stable in developed markets and still growing in emerging markets. Based on industry sources, we expect a long-term hygiene growth trend of c 4%. Industrial demand is more cyclical and currently significantly down year-on-year, reflecting the economic downturn and its exposure to cyclical industries such as housing and automotive. Some signs of stabilising have been noted in recent trading statements (eg from Fiberweb). Like Hygiene, there is 'catch up' demand in emerging markets, which will be the main growth driver. Overall we expect long-term demand growth of c 6%.

Exhibit 6: Trend growth in nonwovens 2010-12e (%)



Source: Industry data and Edison Investment Research estimates

Supply: Over half is in Europe and North America, China catching up

Nonwoven manufacturing capacity has grown significantly over the past decade. Around 50% of all industry production is located in facilities in Western Europe, the US and Japan. Nonwoven manufacturing has grown strongly in developing countries, most notably China, where output has increased fourfold over the last decade. Global nonwovens capacity is estimated by industry association EDANA to have been 6.75m tonnes in 2007, of which PP nonwovens account for around 2.2 million tonnes, following a c 10% capacity build since 2006. Just over 30% of global capacity is based in Europe, with around 25% in North America. China and Latin America now represent around 35% of world nonwovens capacity compared with just 20% in 2002.

Global oversupply persists, but areas of relative strength

The global industry is currently oversupplied with capacity utilisation rates at around 80% (90% before allowing for downtime and maintenance). However, utilisation varies between regions. In the US, capacity utilisation rates are likely to be above 90%. In Europe, the market is equally tight, with rates close to 90%. For example, Central European producer PEGAS currently has 100% capacity utilisation. The most oversupplied markets are in Asia-Pacific and China, where utilisation rates are as low as 70%, but this is the region where most capacity additions are planned.

Looking forward, dependent on the demand outlook and the timing of the construction of new plants, we see global utilisation rates improving slightly and markets tightening more appreciably in some geographical regions. In particular, the US and European markets are likely to remain tight, as utilisation rates increase, although the former market is vulnerable to imports from oversupplied Latin American markets. However, shipping costs and duties will limit the level of imports.

Expansions due, mainly from late 2011/12

There is significant new capacity scheduled, but the majority will not be operational until 2012 or beyond, assuming some will have been delayed as a result of the current economic downturn. Overall, we believe capacity increases currently planned equate to around 3% per annum.

In Europe, following several expansions in 2007 and 2008, there are now only a few expansions planned for the next few years. These include a 15kt expansion by Fiberweb in Italy, PEGAS in Czech and Zavod in Russia. We understand that some producers – including Dounor, Fibertex and Tesalca – are also considering installing new capacity, but this is to replace obsolete technology. In total, we estimate that new capacity will represent around 10% of existing capacity, mainly aimed at the hygiene market.

In the US the planned capacity announcements are from Fitesa (30kt), PGI (15kt) and a 15kt expansion from First Quality. It is understood that AVGOL has delayed its investment in a new plant. Most of the expansions are aimed at the hygiene market. In Latin America, there are currently few capacity expansions under construction or planned.

In the Middle East there has been recent expansion but there are no new additions planned. It should be noted that most of the expansions in the region are driven by government and industry incentives to install downstream, converting capacity for polypropylene. There are many new polypropylene capacity expansions planned over the near term and this could lead to new PP nonwoven capacity being announced.

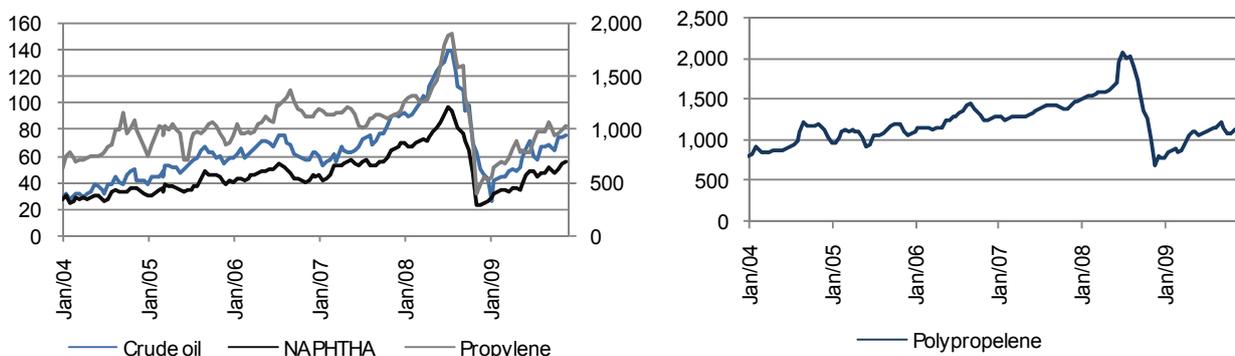
In Asia-Pacific, again there are few capacity expansions scheduled in the medium term. This is primarily due to most market participants planning for Chinese-based capacity serving these markets. In China expansions over the next three years are planned from a number of producers including Hubei Gold (AVGOL), PGI Suzhou and Toray Nantong. We suspect that there are several more expansions being planned and even in the process of being undertaken.

Raw materials are the single biggest cost and reflect oil price moves

The global nonwoven industry depends on the dynamics of raw material supply and demand. Raw materials are the single most important input for production, representing approximately 55% of revenues. The two most important are polypropylene and polyester, the former more dominant in Hygiene use (around two-thirds Hygiene, one-third Industrial). Major nonwoven producers have been faced with challenges to deliver sustained profit margins amid price volatility in these polymers.

We believe that the petrochemical cycle will remain in oversupplied condition and consequently pressure is unlikely to arise as a result of supply pressures. The key uncertainty remains the oil price, as its volatility affects the prices of petrochemicals and plastic. This was a particular pressure in 2008 as oil prices rose and economic markets started to deteriorate. Today, most producers structure the majority of their contracts to include a 'pass through' clause, which smooths some, but certainly not all, of the affect of volatility in oil prices (see Exhibit 7).

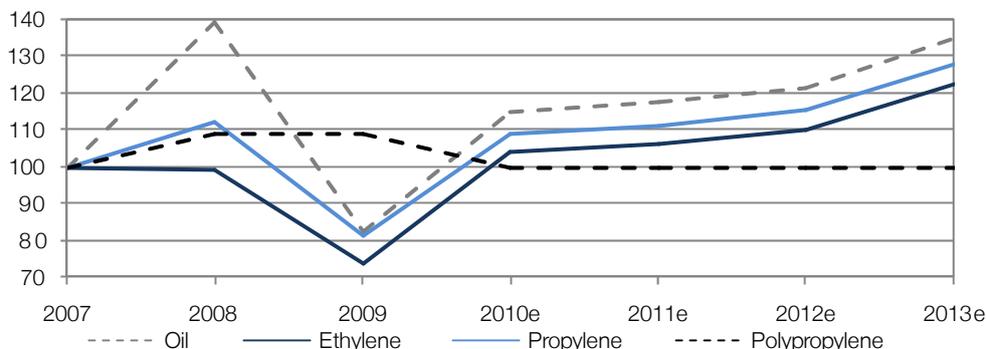
Exhibit 7: Crude oil, naphtha, propylene and polypropylene prices – \$/bbl and \$/mt



Source: Plastemart.com

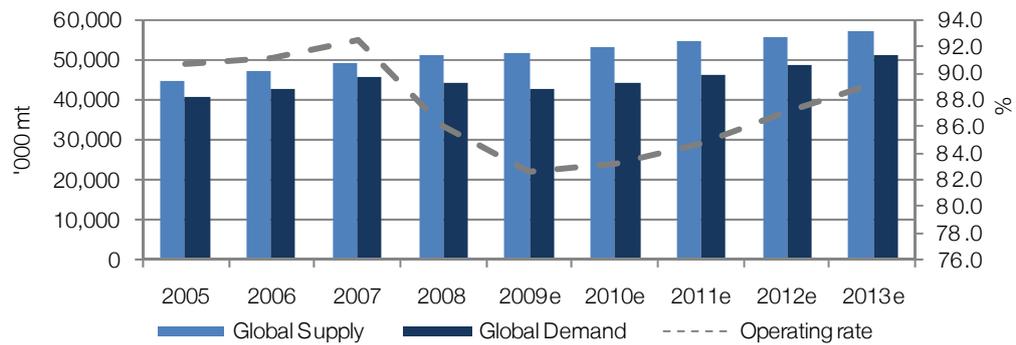
We are taking the view that oil prices over the medium term will be on a rising trend from current levels, reflecting steadily increasing demand as the global economy recovers from the doldrums of the past 18 months. Our base case scenario does not allow for any spikes or collapse in prices over the medium term from current levels, but given the inherent volatility of oil markets neither scenario can be readily ignored.

Exhibit 8: Oil (\$/bbl) and petrochemical (\$/mt) price index scenario



Source: Edison Investment Research estimates

We believe that the petrochemical sector will remain oversupplied and that global operating rates will remain low. Estimated supply demand balances for one of the key raw materials, polypropylene, is shown in Exhibit 9.

Exhibit 9: Polypropylene – global supply/demand balance

Source: Fiberweb, industry data, Edison Investment Research estimates

Pricing favours the buyer, but sellers will have some leverage

Nonwoven prices are highly dependent on global and regional supply and demand dynamics and capacity developments in terms of additions and closures. The price of nonwovens is also determined by product type, geographical region, the cost of fibres, resins and additives used, as well as the web formation and web bonding processes utilised. Competition from other types of materials also affects nonwoven fabric pricing. Geographically average prices range from around \$3.75/kg in Japan to \$2.25/kg in China, with an average global price of around \$2.80/kg.

Looking forward, average global selling prices over the medium term are forecast to remain under downward pressure, notwithstanding short-term spikes and volatility. This reflects the oversupplied nature of the industry. Expansion in capacity in lower-cost areas including China will lead to further downward pressure. Furthermore the overall product mix is shifting away from higher priced types of nonwoven fabrics toward lower cost, commodity-type items as developing world demand grows in price sensitive applications such as personal hygiene. This will offset volume growth for some more expensive types of nonwovens like meltblown and carded spunlaced.

However, more favourable supply/demand balances in the US and Europe will allow for a firmer pricing environment in these markets. While these markets will be vulnerable to low cost imports we believe that transport costs and duties and lack of internal distribution will limit the level. In addition, the introduction of better-performing, higher-value products and the development of new applications for nonwoven fabrics in developed countries will prevent average prices from falling appreciably.

The other important factors that influence the price of raw materials are the oil price and the cost of energy (as the production process is energy intensive). Polyester and polypropylene costs also follow the price movements of oil/ethylene, and the recent spike in crude oil prices is pushing nonwoven raw material costs up. Although the trend in polypropylene costs in 2009 has been downwards, there was an increase of roughly 20% in Q309 (compared to Q209), which seems to have continued into Q409.

Competing materials – nonwovens offer specialty properties

Nonwoven products compete with many other materials, including wovens, paper products and plastics, depending on the application. The use of one material over another is based on both cost and performance considerations, especially in markets such as clothing, furniture, geotextiles and wipes. Nonwoven fabrics are cheaper than conventional woven textiles. Weaving machinery is

more expensive to buy and operate than nonwoven web formation and web bonding equipment, making nonwovens more cost efficient to manufacture. Lower production costs allow nonwoven fabrics to be used in short life and disposables applications, uses where the costs of woven textiles limit involvement.

Disposability is particularly important in hygiene and medical applications, where cleanliness is a priority. In addition, performance characteristics of nonwovens are more easily manipulated than those of conventional textiles. Nonwoven fabrics can be specifically engineered to a particular application's requirements by varying fibres, resins, finishing treatments, and web formation and web bonding processes to provide the desired level of absorbency, chemical reactivity, durability, softness and strength. However, woven fabrics are generally stronger and more durable for use in long life applications such as clothing, furniture, geotextiles, home textiles and automotive upholstery.

Plastic sheet is another material that nonwovens compete with, most notably in applications such as agricultural film, bandages, packaging and protective clothing; and plastic and rubber foam compete with nonwoven fabrics in applications like insulation, mattress pads, ticking and upholstery backing. Compared to these other materials, nonwovens are less well known among potential customers and more widely used for higher value applications. However, use of nonwoven fabrics is increasing in these markets because of performance advantages that include greater durability and comfort, versatility and the ability to be customised.

Research and development

R&D pursues technological advances, such as strength, durability, permeability, protection, ultralight weight etc, that allow nonwovens to be used in new applications at an economic cost to the customer. There is market demand for ever increasing technical sophistication of products, whether in Hygiene or Industrial uses. R&D is therefore focused on product innovation, process efficiencies, and meeting stringent customer requirements. Typical R&D spend for the industry is around 1-2% of sales.

M&A activity – further consolidation likely

Further consolidation is likely to enhance companies' competitive presence in respective markets. The larger players are looking to consolidate in new geographical areas and the smaller players to grow through mergers and acquisitions.

M&A activity in the global nonwovens industry in recent years has reflected the fragmented nature of the industry and the opportunities for geographical expansion as well as the benefits of consolidation.

PGL has recently completed the acquisition of Tesalca-Technovo in Spain (2008 sales of \$87m) for a total consideration of a 6.75% stake in PGL (currently worth around \$20m). Tesalca is the only group that manufactures spunbound polypropylene nonwovens in Spain, and is a major player in the European market. Furthermore PGL also bought the minority interest in its Argentina operation to further consolidate its operations in Latin America.

In 2007 AVGOL proposed buying Fiberweb, but apparently was unable to raise sufficient funds to follow through on the offer. Fiberweb itself has recently completed the formation of a Fitesa Fiberweb joint venture with Petropar, which will create a leading producer of spunbound

nonwovens for hygiene products in the Americas. In March 2009, Fiberweb signed an agreement to acquire the remaining 50% of Coronor Composites from its joint venture partner Nordenia International. The acquisition of the other portion of Coronor Composites, which makes nonwoven composite materials used primarily in the manufacture of medical drapes, strengthens Fiberweb's competitive position in a market with good growth prospects.

In 2008, the producer Milliken purchased Western Nonwovens' fire retardant and geotextile nonwoven fabric product lines. Western Nonwovens, a large manufacturer of nonwovens, filed for Chapter 11 bankruptcy protection in July 2008.

In 2007, Providência acquired Isofilme, which manufactured standard and composite nonwoven fabrics. This purchase enlarged Providência's nonwovens production operations in Brazil and eliminated a local market competitor.

Other recent acquisitions have strengthened nonwoven fabric manufacturers' downstream operations. Examples of this include First Quality's April 2008 purchase of Covidien's Retail Products business, which makes private-label nappies and other nonwovens-based personal hygiene products, and Freudenberg's January 2008 acquisition of Spasciani Air Filter, an Italian manufacturer of heating, ventilating and air conditioning filters.

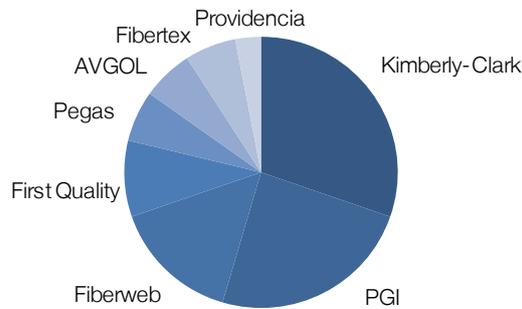
Hygiene

Hygiene nonwovens, used in consumer and disposable goods

Hygiene accounts for around one-third of total nonwovens demand and two-thirds of polypropylene nonwovens demand. Companies that have a significant portion of sales in Hygiene or whose products are sold predominantly into Hygiene markets include PGI, Fiberweb, PEGAS, Companhia Providência, AVGOL and Suominen. Fiberweb also sells into industrial markets. Ahlstrom, a Finland-based conglomerate for whom nonwovens are around 25% of sales, also sells into both the Hygiene and Industrial sectors. Within the segment, the largest polypropylene nonwovens producers are Kimberly-Clark (all for internal consumption), PGI, Fiberweb, AVGOL, First Quality, Providence and PEGAS. In 2008 the largest 25 producers accounted for around 75% of the global polypropylene nonwovens market.

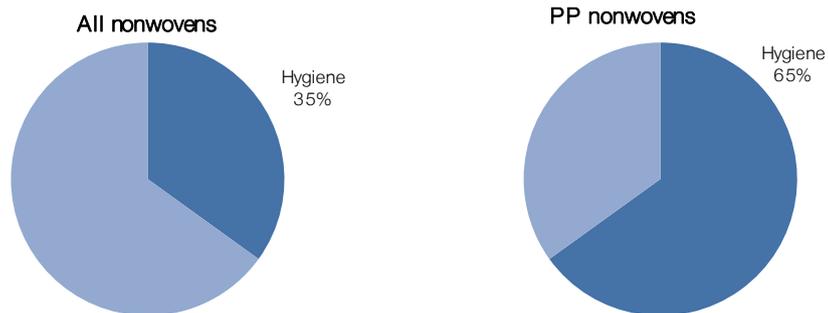
Exhibit 10: Leading hygiene nonwoven producers

Note: Based on top eight producers with total 2008 sales of approximately \$3.3bn.

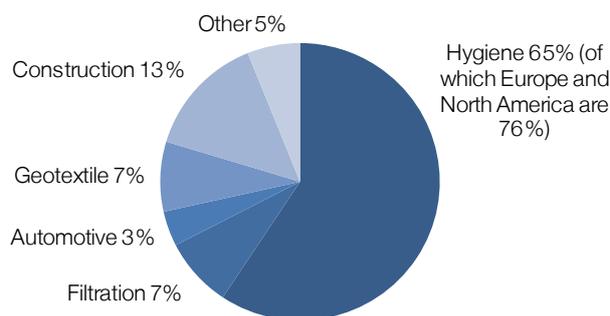


Source: Industry and company data and Edison Investment Research

Exhibit 11: Nonwovens and the hygiene market



Source: Edison Investment Research estimates

Exhibit 12: PP nonwoven demand by market 2009e

Source: Edison Investment Research estimates

Hygiene relatively defensive; highest growth in Asia/China

Generally, the Hygiene market is relatively defensive, and there tend to be fewer but larger customers for nonwovens. Key applications are in baby nappies (growing at around 5% per annum) adult incontinence (growing at around 8-10%), feminine hygiene, consumer care products and medical products.

Market trends vary by product and region. In the **nappy market**, we expect good growth in emerging markets, particularly in Asia/China as a result of the wider use of disposable nappies, but more moderate growth in the developed European and North American markets. Growth is expected in the use of **feminine hygiene products**, driven, in the developed world, by higher value added products, and in emerging markets by increased acceptance of the products. A small number of key brands (and nonwoven customers) dominate this market. The use of **adult incontinence products** is growing globally but particularly in the developed world, primarily as a result of ageing populations. Sales are predominantly into institutions such as old age homes, but there is increasing market penetration into the retail sector. In the market for **medical products** such as surgical packs and gowns, use of disposable nonwoven medical products is high in North America but less so in Europe. The **consumer wipes** market is divided into baby wipes, personal wipes and household cleaning wipes. The baby wipes sub-sector is the largest, with Western Europe and North America being the most prominent markets. The **fabric softener sheet** market is important in North America as consumers typically apply fabric softener to their clothes through the use of an impregnated fabric softener sheet in a tumble dryer. This is a technically demanding application. In the **graphic arts** industry, there is a demand for specialised wipes and roller covers used in the set-up of off-set lithographic printing processes and to a lesser extent in more modern digital printing equipment. These products typically attract high margins because of their specialised nature, and small cost in the context of the printing operation.

Industry participants expect growth of around 3% per annum in hygiene and hygiene-related markets in developed countries and close to 7% per annum over the medium term in developing countries, with China exceeding this at close to 10%.

Three key technologies in Hygiene

There are three broad technologies in Hygiene, carded, spunbond/spunmelt and spun lace. And there are three main broad end uses, baby nappies, adult incontinence and feminine care, in addition to numerous specialty variations within these product areas.

Carded is the original, traditional technology based on staple fibre. Volumes have been growing, mainly due to increased demand for higher performing nappies (around 75% of carded nonwoven fibre demand) as producers seek to improve technical aspects such as liquid retention and comfort. These are key attributes for nonwoven producers' customers who are selling on into an increasingly competitive market. PGI is dominant in carded production and in Europe, Sandler holds a strong position in the German market. Freudenberg is also active in carded for Hygiene (albeit not a core business).

Spunbond is experiencing significantly higher growth than the traditional carded segment. This involves extruding polypropylene into a fibre in a continuous process – then compressing and/or heat bonding, the end aim being to achieve equivalent strength using less raw material. However, the process is energy intensive, and requires large scale production with high technical ability to be economic for any investing producer.

Spunlace uses a high pressure water jet to entangle fibres to produce a soft product used, for example, in nappies and wipes.

Airlaid is a key spunbond product produced from thermally bonded cellulose to produce a soft and malleable product to which can be added superabsorbent polymer (SAP), which absorbs and retains liquids. It typically is used in feminine care, nappies and tissues and wipes. It is also used in environments where liquid absorption/protection is needed, such as pads to rest under meat.

Strategic positioning in Hygiene

In terms of production, Kimberly-Clark is the largest manufacturer, but most of its output is for captive use. PGI (70% owned by private equity firm MatlinPatterson) is largest in terms of external sales with a global, predominantly spunbond business. Its strategy is to be global leader in hygiene and medical markets. In the last three years it has streamlined its US thermal bond business and invested in new capacity and assets in China, North America and Mexico. Ahlstrom has invested in spunlace capacity in Brazil and in spunmelt medical use capacity in India, due onstream in 2010. Ahlstrom in 2006/07 also reorganised its Hygiene business into Home and Personal & Advanced with a view to increasing its position in wipes, enhanced by the purchase in 2007 of a spunlace business from Fiberweb. The divestment was part of a restructuring by Fiberweb of its businesses following its demerger in 2006 from parent company BBA. Since then, Fiberweb has invested in Hygiene through, for example, a JV agreement with Petropar to establish the second largest producer of spunbond nonwoven fabrics in the Americas. Its business is global with a strong position in Asia.

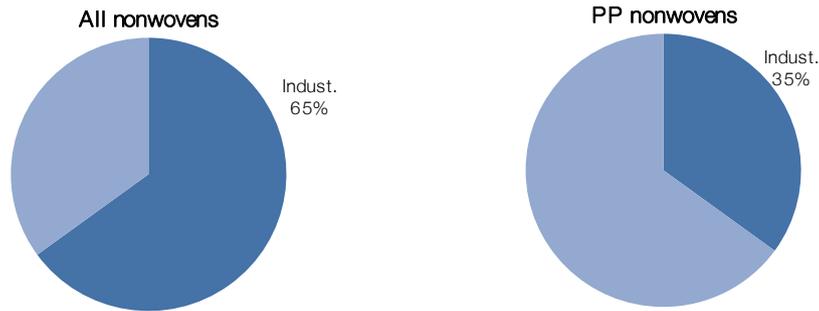
Other producers include AVGOL, selling into Israel, China and Russia (where it has increased spunmelt capacity within the last three years). In 2007 AVGOL proposed to buy Fiberweb but was unable to raise the necessary funding. Czech Republic producer PEGAS (mainly Hygiene, based on polyethylene and polypropylene) is planning a ninth production line due onstream in 2011.

Industrial

Industrial applications account for two-thirds of nonwovens demand and one-third of polypropylene nonwovens demand. The sector is typified by a diverse range of complex products. It differs from Hygiene in being more complex, with producers more defined in niche areas.

Key industrial markets include construction, filtration, medical products and automotive.

Exhibit 13: Nonwovens and the industrial markers

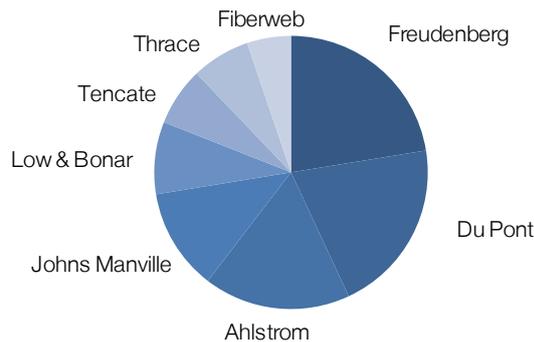


Source: Edison Investment Research estimates

Key producers include Freudenberg, DuPont, Ahlstrom, Johns Manville (owned by Berkshire Hathaway), Fiberweb, Low & Bonar, TenCate and Thrace Plastics. There is a strong degree of product differentiation. Freudenberg is strong in polyester roofing. DuPont's brand Tyvek is used across a range of products and its protective aspects lead to strong positions in medical and housewrap. Ahlstrom is strong in fibre composites and filtration, one of its strategic growth areas, while TenCate's focus is on geosynthetics.

Exhibit 14: Leading industrial nonwoven producers

Note: Based on top eight producers with total 2008 sales of approximately \$5.8bn.



Source: Industry and company data and Edison Investment Research

In the **construction** industry, nonwovens are used in the form of housewrap, geotextiles and roof lining. Housewrap is an air and moisture infiltration barrier designed for use with timber-framed houses, and approximately two-thirds of new houses in the US and Canada incorporate housewrap. Geotextiles act as protective barriers and their specific uses include soil separation, earth reinforcement, structural damage limitation and erosion control.

The **filtration** market is highly fragmented with many different technologies and end-use applications. Nonwovens are particularly suitable for use in filtration since they are capable of filtering finer particles and can be produced more cheaply than traditional woven media – there is

potential for growth in both the air and liquid filtration segments globally. Nonwoven fabrics are used to manufacture filter media for a variety of air purification, fluid, and internal combustion engine and related filter types.

In the industrial markets, in the longer term we are anticipating growth at a small premium to GDP in the developed areas and a marginally larger premium to GDP in the developing countries, reflecting the numerous applications for these products. The latter assumption may be still conservative owing to the product markets still being of low total value, with significant opportunities. Over the last one to two years, industrial demand and volumes have been reduced reflecting their use in some of the most cyclically sensitive sectors of the world economy, including construction and automotive.

Strategic positioning in industrials

The industrials market is dominated by Freudenberg, DuPont and Ahlstrom, but additionally populated by a large number of either smaller companies or companies for which industrials is not the prime business. Strategic investment and repositioning has been driven more by economic market considerations than is the case for Hygiene. Industrial uses are by nature more cyclical, and companies selling into the depressed US housing market have been cutting costs and streamlining businesses. Freudenberg carried out a degree of streamlining over the last couple of years and it, along with others, has tailored its plans for uses such as interlining to reflect the growing influence and presence of Chinese competitors. Capacity announcements in Industrial have been fewer than for Hygiene, with much of the investment emphasis on process technology upgrades and the streamlining of obsolete lines.

Competitive and company positioning

Key attributes in competitive positioning

The world nonwovens business is intensely competitive owing to the relative maturity of developed world markets, the emergence of low-cost developing country producers, competition from other materials, the geographic spread of the customer base and the ease with which products can be substituted for those of another.

Producers of nonwoven fabrics adopt a variety of strategies to sustain and enhance their competitive advantage including developing economies of scale and low-cost manufacturing, product differentiation and market segmentation. Companies tend to operate their businesses in two broad areas, hygiene and industrial.

Exhibits 15 and 16 show our ranking of each of the major producers according to key attributes that we believe are important in achieving a favourable competitive position. These attributes include economies of scale, low cost leadership, level of forward/backward integration, product differentiation, market segmentation and geographical diversity.

Exhibit 15: Edison Investment Research assessment of competitive factors (global leaders)

Note: The higher the number of 'x's, the greater the value of the factor to the company in the market place.

Top three global nonwoven producers			
	Freudenberg	DuPont	K-Clark
Economies of scale	xxx	xxxx	xxxx
Low-cost position	xxx	xxx	xxx
Forward integration	xx	xx	xxx
Back integration	xx	xxx	xx
Product differentiation	xxx	xxx	xx
Market segmentation	xx	xx	xx
Geographical spread	xxx	xxxx	xxxx
Financial strength	xxx	xxxx	xxxx

Source: Edison Investment Research

Exhibit 16: Edison Investment Research assessment of competitive factors (PP producers)

Note: The higher the number of 'x's, the greater the value of the factor to the company in the market place.

Leading PP nonwoven producers						
	Fiberweb	PGI	PEGAS	Providencia	Fibertex	AVGOL
Economies of scale	xxx	xx	xx	xx	xxx	x
Low-cost position	xx	x	xxx	xx	xx	xxx
Forward integration	x	x	x	x	x	x
Back integration	x	x	xx	xx	x	x
Product differentiation	xxx	xx	xx	xx	xx	xx
Market segmentation	xx	x	xx	xx	xx	xx
Geographical spread	xx	xx	xx	xx	xx	xx
Financial strength	xxx	xx	xx	xx	xxx	x

Source: Edison Investment Research

Hygiene strategic issues

In the Hygiene area, developing economies of scale and low-cost leadership, which is largely based on efficient production, marketing and distribution, is particularly important especially as the markets for some nonwoven products have become increasingly price competitive as more manufacturers enter the industry. Furthermore the main customers are large corporates, such as Procter & Gamble, Kimberly-Clark, SCA, Johnson & Johnson, Hartmann et al, and all have enormous purchasing leverage and muscle. Other strategies employed include the use of backward, forward or horizontal integration. Most leading companies now use state of the art

technology, which, in addition to increasing the firm's productivity, enables it to produce finer denier fibre and make lighter-weight fabrics.

Backward integration provides low-cost sources of raw or upstream materials. Not many producers are back integrated in the primary raw materials such as polypropylene but many are back integrated into some of the minor raw materials. Forward integration gives a company control over the distribution or the manufacture of completed products for downstream markets. Kimberly-Clark is by far the most forward integrated of the nonwoven producers. Overall, a relatively small number of nonwovens producers are forward or backward integrated in a significant way, primarily because of the high capital and marketing costs associated with such a move.

The industry is pronounced in terms of product differentiation. Nonwoven fabric manufacturers market their products' durability, lighter weight, softer feel and other performance advantages in order to differentiate their goods from those of their competitors and build brand loyalty among customers. In addition, the ability to make nonwovens using various types of web formation and bonding processes allows a firm to offer a high level of customisation and provide buyers with a wide range of product characteristics.

The diverse markets for nonwoven fabrics offer opportunities for market segmentation. In consumer disposables markets, for example, a supplier's nonwovens can be targeted to manufacturers of nappies, adult incontinence products, feminine hygiene products and wipes. Some of these markets include even more specific niches. For instance, the nappy market can be further divided into nonwoven fabrics used in backsheets, distribution layers, leg cuffs and other components. Each of these particular applications requires different levels of absorbency, purity, softness and strength.

The market segmentation or focus strategy enables companies to efficiently concentrate on particular buyer groups. This strategy is based on the premise that narrow, strategic markets are more efficiently serviced than a large market composed of unrelated customers. Others have exited markets that have become too price competitive and focused on higher value-added markets with higher margins.

The PP nonwoven industry is a highly fragmented subsector of nonwovens, which itself is composed of a variety of manufacturers ranging from large multinational corporations to small privately owned companies. DuPont and Freudenberg have a small involvement in PP nonwovens, being more specifically involved in polyethylene and polyester nonwovens.

Industrial strategic issues

The industrial markets are highly diverse, niche and a key strategic area of growth for many companies. In these markets technical capabilities and innovation are the key criteria for success and products have very similar characteristics to specialty chemicals. There is demand for highly engineered and customer specific materials. Growth is driven by category-specific demand dynamics and also by legislation and environmental requirements.

Many companies have recently launched new products into a variety of sectors. The overall strategic aim of companies is to build strong positions in a few selected markets where brand strength and technology and the ability to differentiate the product from those of its competitors should result in improved financial performance. Successful products will be further developed through enhanced marketing, product innovation and strategic product line acquisitions. Improving

product performance, finding new applications for nonwovens, and increasing process efficiencies are all critical factors for strengthening customer relations and maintaining margins.

The industrial markets offer an opportunity for the major nonwoven players to differentiate themselves from each other, to move away from being seen as a pure commodity producer and to add value. We believe that this strategy is likely to be successful in the short/medium term but caution that over the longer term many specialties trend towards becoming commodities as competition in the market place increases and returns decline.

Strategic positioning – Hygiene and Industrial

Albeit under the broad umbrella of global nonwovens, company strategies and competitive positioning are best assessed along the lines of the two key end markets, Hygiene and Industrial. Historically, there are a number of reasons for being in one or the other. It can reflect regional location. For example, the Chinese markets only a few years ago were almost entirely Hygiene dominated, but, according to EDANA, around 10% of the Chinese nonwovens market will be in Industrial uses by 2012, influencing both the capacity build, choice of technology, and export strategies of producers in that region. Other historic considerations might be proximity to cheap raw materials, as has been the case in the Middle East and determined the capacity programme and technology choices in that region. In the US and Europe, the build out of nonwovens from petrochemical and plastic divisions of large corporations stimulated production location and product type. Subsidised energy favours the production of energy intensive spunbond materials. Technology and consequent product type will reflect access to raw materials. Hygiene is dominated by polypropylene, reflecting the properties of that material, whereas 'tougher' polyester is more dominant in Industrial.

Strategic investment – Hygiene or Industrial?

Investment patterns vary. Key facets include:

- 1) Growth in developed Hygiene markets alongside the increasing requirement for sophisticated technology.
- 2) The opening of new areas of Hygiene markets (eg adult incontinence).
- 3) The mid 1990s economic boom, which stimulated demand for Industrial applications.
- 4) Asia-Pacific, Latin American and other developing markets' per capita consumption of Hygiene products increasing on a much faster base than in developed regions as they 'catch up'.
- 5) The stimulation of Industrial demand in developing markets.
- 6) The substitution of nonwovens for older traditional products.
- 7) Innovation in both Hygiene and Industrial markets as new applications emerge (eg use of ultra light and protective materials in military and auto industries).

Looking at new capacity now planned, we would summarise key investment trends as being:

- 1) More capacity additions are planned in Hygiene than in Industrial, where performance has been more affected by the recent economic downturn.
- 2) The focus has been to invest in emerging, stronger growing markets such as Asia and Latin America.
- 3) In a down part of the cycle it is typical for companies to streamline, and to optimise and upgrade process technology rather than embark on greenfield new investment.

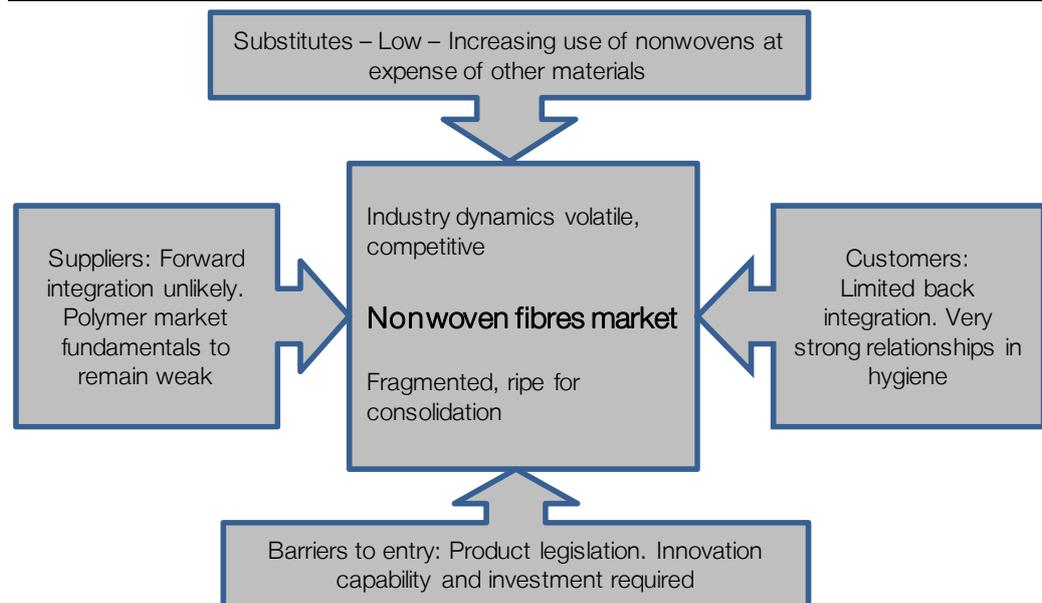
- 4) Most of the planned additions are scheduled from late 2011 on – lack of economic recovery would push this timeline back.

Strategies: Leading players well positioned

In both the Hygiene and Industrial areas the objectives are to maintain and enhance competitive advantages. Producers of nonwoven fabrics adopt a variety of strategies to sustain and enhance their competitive advantage including developing economies of scale and low-cost leadership, product differentiation and market segmentation. Objectives for hygiene are based upon developing a competitive advantage primarily through low-cost leadership on a regional basis. In the industrial areas, innovation is the primary prerequisite for growth, and is important strategically in terms of diversification and in expanding product lines.

Larger producers in hygiene markets typically have strong competitive positions in their respective markets, but are facing increasing competition from medium-sized players. Industrial producers have good positions in selected niche markets but the presence of larger groups with economies of scale and financial resources and highly focused smaller players could limit the development opportunities. Challenges to industrial markets (to a greater extent based on polyester as well as polypropylene) include increased capacity in China, commoditisation of product, and outsourcing to Asia by European and US producers of, for example, protective clothing and auto products.

Exhibit 17: Nonwoven industry dynamics



Source: Edison Investment Research

Sensitivities

Economics: Industrial markets most affected

The industry's performance and corporate financial results will vary significantly from year to year as a result of a variety of factors. These factors include general economic conditions, conditions specific to the market – supply and demand – and conditions specific to each company. A change in economic conditions in customer markets (including, for example, a downturn in the US housing market or a deterioration in consumer confidence) could adversely affect business. In addition, significant increases in energy costs, the cost of transport and distribution and employment costs in the locations of manufacturing sites would adversely impact profitability. Furthermore, many companies operate from sites in Asia and Latin America that may be affected by political conditions.

Raw material cost: Petrochemicals the key inputs

Raw materials are the single most important input for industry production, representing approximately 50% of sales. Although there are a variety of raw materials, polypropylene and polyester are key. The prices of polypropylene and polyester are a function of, among other things, the price of crude oil and monomer and polymer manufacturing capacity and demand. Their prices move, with a lag, to reflect oil price changes, and hence can inject volatility into producer margins. In general, most producers structure the majority of their contracts to include a 'pass through' clause that smoothes the impact.

A company's ability to manage the influence of raw material prices is largely determined by the level of pass through achieved. Pass through is a mechanism by which raw material price increases (or decreases) are passed on to customers as changes to selling prices, either contractually (which is an automatic mechanism in a sales contract linked to a movement in a market index) or non-contractually (which is achieved through negotiation or *ad hoc* price increases by customer, market or product). Contractual pass through mechanisms are in place with major customers and the level of pass through achieved remains relatively constant. Most companies have generally been able to pass through a substantial proportion of raw material price increases, albeit with an average time lag of two to three months.

The supply/demand balance

The other key factor affecting prices and profitability is the supply/demand imbalance. Currently, on an aggregate basis, the industry is oversupplied. China and Latin America now represent around 35% of world capacity compared with just 20% in 2002. Expansion in capacity in lower cost areas including China will lead to further downward pressure. However, more favourable supply/demand balances in the US and Europe will allow for a firmer pricing environment in these markets. Overall, we believe capacity increases currently planned equate to only around 3% pa.

Customer relationship: Technology co-operations crucial

Across the industry there is a high degree of dependency on maintaining good relationships with a relatively small number of key customers. The failure of a producer and its key customers to renew contracts could result in a significant reduction in the demand for its products. This is particularly the case within the hygiene market, where, through a large number of different contracts and purchasing arrangements of varying duration, one specific customer can account for as much as

30% of sales. Proctor & Gamble is an important customer for most PP nonwoven producers. Furthermore, an understanding and knowledge of customers' technology needs is crucial, as developing products with customers helps in maintaining the relationship.

Competition: Fragmented and intensely competitive

Competition is intense within the industry and producers faces competition from global companies that provide similar products. Competition in the industry is based upon: range and quality of products offered; the ability to deliver new products; geographical reach; reputation; price; and client relationships. Specifically, the hygiene market is characterised by large customers and some production over-capacity.

Changes in technology: Important to maintain low cost position

Production and process technology is a key driver of growth and of profitability in the nonwovens market and corporate growth is dependent on the ability to renew the pipeline of new products and processes and to bring these to market. This ability may be adversely affected by difficulties or delays in product development such as the inability to: identify new products; successfully complete research and development; obtain relevant regulatory approvals; or gain market acceptance of the new products and processes.

Competitors may also develop new products and processes that may prevent the development or use of a particular product or process. Although most companies operate a worldwide research and development group that has generated a number of new products and processes, failure to continually invest to develop a steady stream of successful new products and processes could increase the cost base and result in reduced competitiveness.

Legal and regulatory environment: Severe, but a barrier to entry

There are many laws and regulations concerning products, and their composition, use and disposal. In the US the Clean Water Act is the principal environmental regulation impacting the nonwoven fabric industry. In the European Union, manufacturers of nonwovens have to comply with regulation like the Registration, Evaluation and Authorization of Chemicals (REACH) law. REACH requires articles including nonwoven products such as nappies that are manufactured or imported into the EU to be registered in a central database managed by the European Chemical Agency. In addition, nonwoven products that are intended for food contact (like absorbent food pads and foodservice wipes) are subject to an EU Framework Regulation requiring them to be safe for use and be labelled as such, unless the intention for food contact is obvious by the nature of the article. These laws and regulations are becoming increasingly stringent.

Financials

Detailed financials are limited

The nonwoven industry has become more visible over recent years, with the stock market listings of several companies. Fiberweb and PEGAS were listed in 2006 and Providência in 1997.

Consequently, visibility has generally improved, but remains restricted where the nonwoven business is a division of a large multinational or unquoted company.

From a financial standpoint, the nonwoven industry is in many ways a highly heterogeneous industry making financial comparables very difficult. Apart from the obvious difference between the hygiene and industrials businesses, DuPont and Fiberweb, for example, are in different areas of the nonwoven business, the former primarily in polyester/polyethylene and the latter in polypropylene. PGI, PEGAS and Providência are mainly involved in hygiene. Fiberweb and Fibertex report hygiene very much as a standalone business. The other smaller industry players tend to focus on a variety of industrial markets with numerous and varying product types.

The economic crisis has impacted financial performance

The nonwoven industry has suffered from the recent economic crisis, with sales declining and profit margins for the quoted companies reaching their nadir in Q109. Over the last three years, sales declined by an average of around 11%, with volume, price and foreign exchange rate effects all being significant. EBITDA margins have declined, despite companies continuing to address their cost bases through restructuring programmes.

The most notable feature of the financial comparables is the variation in margin for the leading nonwoven producers. PEGAS and Providência have EBITDA margins above 25% whereas the other majors – Fibertex, Fiberweb and PGI – have significantly lower margins. We attribute this to lower labour costs, lower utility costs, advantageous raw material procurement costs with indigenous petrochemical producers and the general lower-cost environment of developing countries. This mix of lower costs is particularly inherent to these markets and should not be seen as the typical industry margin and easily replicated in other markets. Indeed as saturation of the domestic market occurs (for example PEGAS or Providência), and the companies expand into new markets, margins are likely to adjust downwards.

Exhibit 18: Nonwoven producers hygiene business financial comparisons

Note: 2009 figures either consensus where available or Edison estimates. Fibertex is a division of Schouw.

Sales growth %	2007	2008	2009	EBITDA margin %	2007	2008	2009
Hygiene				Hygiene			
Fiberweb	(5.3)	5.3	(13.3)	Fiberweb	10.0	9.7	11.9
Fibertex	5.5	(0.1)	(4.0)	Fibertex	11.8	13.8	18.8
PGI	3.7	8.2	(25.6)	PGI	11.2	9.9	15.0
PEGAS	8.8	17.1	(12.1)	PEGAS	31.5	27.6	29.2
Providencia	(8.5)	(9.2)	(22.1)	Providencia	25.4	25.5	24.7
AVGOL	3.4	(6.3)	(19.8)	AVGOL	23.4	13.5	25.9
Souminen	6.3	(0.3)	(17.0)	Souminen	7.2	4.0	11.8

Source: Company data and Edison Investment Research

Exhibit 19: Nonwoven producers' industrial business financial comparisons

Note: Low & Bonar is for the company, not PP nonwoven division.

Sales growth % Industrials	2007	2008	2009	EBITDA margin % Industrials	2007	2008	2009
Fiberweb	(5.3)	5.3	(13.3)	Fiberweb	10.0	9.7	11.9
Fibertex	5.5	(0.1)	(4.0)	Fibertex	11.8	13.8	18.8
Ahlstrom	10.1	2.4	(11.9)	Ahlstrom	9.5	7.4	6.4
Low & Bonar – Performance Tech Textiles	38.9	7.5	(11.2)	Low & Bonar – Performance Tech Textiles	11.5	12.3	11.3
Tencate – Geosynthetics	11.5	6.4	(10.0)	Tencate – Geosynthetics	10.3	11.6	11.1
Thrace Plastics	14.7	5.2	(26.9)	Thrace Plastics	11.2	9.8	10.0

Source: Company data and Edison Investment Research

Looking forward, our view is that revenues should remain above 2008 levels. Volumes, particularly in the industrial applications, should improve in-line with economic activity in the various geographical markets and prices should remain firm, helped by favourable dynamics in the important US and European markets. Margins in calendar year 2009 have improved relative to 2008, aided by the benign raw material price environment and recent and ongoing cost cutting. However, it is worth noting that from September 2009, raw material prices have increased quite sharply, compressing margins. Over the medium term this is largely passed through to the client, but it does inject short-term volatility into margins and stock prices.

Valuation

Pure play valuations look undemanding and compelling

Investors should focus upon include the developments of the nonwoven industry cycle and on those companies with a strong and sustainable competitive advantage based upon economies of scale, technology positions and market presence and good product diversification, sound finances and good cash flow boosted by cost saving measures.

There are a few selected pure play investment opportunities in this sector. The stocks included are Companhia Providência (Brazil), Fiberweb (UK), Polymer Group (US) and PEGAS (Czech Republic). We exclude a large number of other companies where nonwovens represent much less than 50% of group sales. Note that some other companies have limited share liquidity, for example Polymer Group is 68% owned by the private equity group MatlinPatterson Global Advisers. We also note that Providência and PEGAS are essentially emerging market stocks and the risk profiles of these stocks for investors is somewhat different from those in traditional markets. There are also several mini-conglomerate, multi-industry type stocks, such as Ahlstrom, Low & Bonar, TenCate and Thrace Plastics. They have an important presence in the nonwoven market, but it is debatable whether the nonwoven market dynamics are the key drivers for these stocks. For information purposes, we have also included Suominen which derives a substantial proportion of its revenues from nonwovens.

Looking at valuation metrics for the industrial nonwoven companies is difficult since the leading players are either international conglomerates involved in a wide variety of businesses or are private. The leading nonwoven players are quoted but all on different exchanges, making some valuation metrics more affected by local market conditions. We look at the trading valuation metrics EV/EBITDA and EBIT. We do not believe that the P/E ratio is particularly relevant since it can be heavily influenced by national tax legislation, which can significantly distort inherent valuation conclusions. We consider industry transaction multiples, and given that there has been reasonable M&A activity this will give some idea as to appropriate valuations. PGI's recent acquisition of Tesalca was valued at around 0.23x sales – a multiple higher than the current valuations of the listed nonwoven companies.

In terms of the traditional valuation metrics of EV/EBITDA and EV/EBIT, the large nonwoven producers are trading on average FY10 prospective multiples of c 6x and c 12x, respectively.

Exhibit 20: Valuations of nonwoven producers

Note: EBITDA & EBIT are consensus forecasts. EV is based on most recently reported net debt figure. Prices as at 13 January 2009.

Company	Mkt cap (m)	Net debt (m)	EV (m)	EV/EBITDA			EV/EBIT		
				2009e	2010e	2011e	2009e	2010e	2011e
Fiberweb (£)	82.2	150	232	4.3	4.0	4.0	10.6	9.3	10.7
Pegas (€)	156.9	104	261	7.1	7.6	7.3	11.7	13.3	14.1
Suominen (€)	39.8	52	92	4.4	4.8	N/A	13.1	18.4	N/A
Providencia (R\$)	600.6	168	769	8.0	6.9	5.3	10.0	8.7	6.6

Source: Consensus estimates and Edison Investment Research

Company profiles

Ahlstrom (Industrials)

Year End	Revenue (€m)	EBIT* (€m)	EBIT Margin (%)	RONA (%)
12/07	941.4	60.6	6.4	8.7
12/08	987.4	33.2	3.4	2.9
9mths 09	637.7	11.6	1.8	2.0

Note: Fibre Composites segment only. * Excludes exceptionals.

Investment summary: A major nonwoven player

Ahlstrom nonwovens is an integral part of the Finland-based Ahlstrom group. It represents around 25% of group sales and is currently part of the company's Fiber Composite segment (2008 sales €987m, including inter group eliminations), with Specialty Papers being the other segment. The Fiber Composite segment includes the business areas Filtration (€307m), Advanced Nonwovens (€189m), Home and Personal Nonwovens (€269m), and Glass and Industrial Nonwovens (€236m). The shares have moved off their trough levels seen early in 2009 in anticipation of a cyclical recovery primarily within the paper markets, but are still a long way off their medium-term highs. We expect developments in the paper markets to be the key driver of the stocks in the coming months.

Competitive position

Ahlstrom is the fourth biggest nonwoven supplier worldwide with an estimated market share of around 4%. The group believes that it is a top three producer in its key market segments, including food and medical nonwovens, air, liquid and transportation filtration and nappies and wipes. It has a strong global position, and over the past three years has invested over €500m in developing and strengthening its position in BRIC countries. The group offers a wide range of cellulose and polyethylene based products serving the key markets – automotive, filtration, flooring, food and beverage packaging, furniture, health care, and wipes with well established brand names.

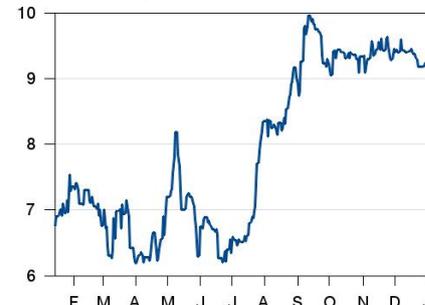
Financials

Recent Q3 results reflected the very challenging and difficult market, with Q3 Fiber Composite sales down 13% and EBIT at €8.8m. The group does not forecast any significant changes in the market situation in Q409 and we expect this to remain the case in the early stages of 2010. As part of its long-term strategy to strengthen the competitive position of the businesses, the group targets ROCE of 13%. In 2008 the group's ROCE was 3% and the fibres composite businesses underlying RONA was 2.9%. While we see the returns improving, we believe that the target is achievable albeit ambitious.

Price* €9.65
Market Cap €450m

* Priced as at 14 January 2009.

Share price graph



Share details

Code AHL1V
Listing HEL
Shares in issue 46.67m

Price

52 week High Low
€10.0 €6.14

Balance sheet as at 30 September 2009

Debt/Equity 82
NAV per share (€) 13.4
Net debt (€m) 511

Newsflow

Group strategic review: October 2009
Q409 results: February 2010

Revenues by geography

Europe	US	South America	Other
56%	25%	11%	8%

Estimated revenues by product

Industrials	Hygiene
80%	20%

Analyst

Paul Singer 020 3077 5700
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AVGOL Industries (Hygiene)

Year End	Revenue (\$m)	Gross profit (\$m)	Income before tax (\$m)	Net income (\$m)	EPS (c)	P/E (%)
12/08	254.2	46.8	13.9	10.0	3.4	18.8
9mths 08	189.6	30.7	6.9	3.9	1.3	49.2
9mths 09	153.1	36.8	17.7	12.4	4.1	15.6

Note: US\$0.27/NIS.

Investment summary: A dynamic player

AVGOL, an Israel-based company, is a dynamic and expanding player in the PP nonwovens area with sales of around \$250m. The company was founded in 1988 and listed in January 2007, raising \$28m through the placing of 20% of new shares and options with outside investors to fund global expansion including a new plant in Russia. At listing the group also issued a \$52m bond, which was used to pay down debt. In early 2008 the company made a bid approach to Fiberweb, but talks were called off when AVGOL failed to raise the necessary finance.

Competitive position

AVGOL has a 5% market share but a global presence both in terms of production and marketing. The group has a leading and expanding market share in the US, but in Europe its market is currently limited to Russia. AVGOL is the number two producer in the Middle East behind SGN (Saudi Arabia). In Asia it currently only operates a plant in China. In late 2008 the group announced a joint venture with ELMARCO, a leading global producer of equipment for nanofibre production. However, the agreement was subsequently cancelled. AVGOL has manufacturing activities in Israel, Russia, the US and China with state of the art plants based upon the Reicofil technology. Approximately two-thirds of its production is based on the latest technology and the company spent approximately \$31m upgrading production lines in the US and China in the nine months to September 2009.

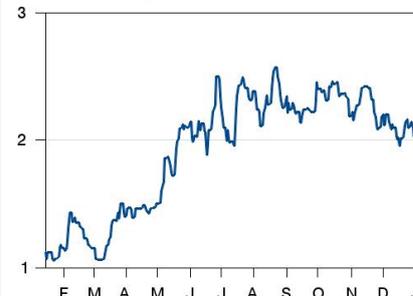
Financials

AVGOL's financials for the nine months to September 2009 show revenues down to \$153.1m (nine months 2008: \$189.6m). However, profitability increased significantly with the gross margin improving from 16% for the nine months to September 2008 to 24%, while the operating margin rose to 14% (same period 2008: 8.1%). The improvement in its financial performance is reflected in its return on equity which rose from just c 7% in first nine months of 2008 to 17.6% in 2009. No discussion on how this improvement in profitability was achieved is provided in the accounts. During 2009 the company announced a number of bond issues including in June \$25m in two tranches to be repaid in six annual instalments at 5.2% interest and a \$12m bond in August 2009. AVGOL also borrowed \$10m in bank financing in February and \$5m from a private Israeli foundation.

Price* **NIS2.3**
Market Cap **NIS685m**

* Priced as at 14 January 2010.

Share price graph



Share details

Code AVGL
Listing Tel Aviv
Shares in issue 297.9m

Price

52 week High Low
NIS2.57 NIS1.05

Balance sheet as at 30 September 2009

Debt/Equity 76
Net debt (\$m) 94

Newsflow

Q409 results: February 2010

Estimated revenues by geography

US Europe Other
74% 22% 4%

Revenues by product

Industrials Hygiene
20% 80%

Analyst

Paul Singer 020 3077 5700
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Companhia Providência (Hygiene)

Year End	Revenue (R\$m)	PBT* (R\$m)	EPS* (R\$)	DPS (R\$)	P/E (x)	Yield (%)
12/08	500.4	108.5	0.49	0.29	17.0	3.5
12/09e	389.5	53.3	0.58	0.10	14.4	1.2
12/10e	425.5	47.5	0.54	0.13	15.4	1.6

Note: Consensus estimates.

Investment summary: Expanding outside Brazil

Companhia Providência is a focused PP nonwovens company, following the recent sale of its PVC pipes and joints division. Based in Brazil, it has a very strong position in the Brazilian market with an estimated 51% market share for disposable and durable nonwoven products. Following the divestment of the PVC and pipes division, the shares have recovered somewhat but still trade on a P/E of 14.4x 2009 consensus estimates. Investors should closely monitor progress on its US expansion as Providência is relatively untested away from its domestic market. Its historically high margins could also potentially be affected by this move.

Competitive position/strategy

Providência's strategy is to focus on the nonwoven segment, especially in the disposable products market, and continue to invest in technology and in state-of-the-art machinery. While maintaining its leadership in Brazil the group intends to expand its presence in foreign markets. To this end, Providência recently announced the resumption of its \$80m investment in its first US facility, following a hiatus caused by the economic crisis. The plant is expected to begin production in 2011. The group has also stated that it will look at selective acquisitions, targeting solid client bases or distribution channels.

Providência has an installed production capacity (in nonwovens), primarily in Brazil, of c 55,000 tonnes, which is around twice that of its major competitor, Fitesa. It uses state-of-the-art spunbonded technology, using Reicofil machines in the production of nonwovens. Providência has a broad client base, and its 130 principal clients accounted for around 85% of its gross sales revenues in the sector.

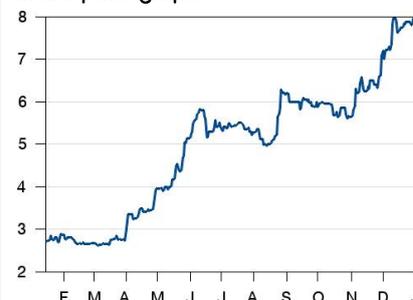
Financial position

The group has recently reported its Q309 results, revealing a recovery in volumes and the group operating close to full capacity. EBITDA margins were down q-o-q but up y-o-y due to the trend in raw material prices. The group's financial position is solid, with net debt at R\$161m, net debt/equity at 32% and net debt/EBITDA at 1.4x. During the past few months Providência has detected clear signs of recovery in sales volumes. In 2010 it expects to work at a sales volume in-line with fully utilised production capacity.

Price* **R\$8.34**
Market Cap **R\$688m**

* Priced as at 14 January 2010.

Share price graph



Share details

Code **PRV13**
Listing **Bovespa**
Shares in issue **82.5m**

Price

52 week High **R\$8.3** Low **R\$2.4**

Balance sheet as at 30 September 2009

Debt/Equity (%) **32**
NAV per share (R\$) **5.8**
Net debt (R\$m) **161.2**

Newsflow

Q409 results: February 2010

Revenues by geography

Latin America **80%** US **20%**

Estimated revenues by product

Industrials **30%** Hygiene **70%**

Analyst

Paul Singer **020 3077 5700**
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Fibertex (Hygiene & Industrials)

Year End	Revenue (DKKm)	Gross profit (DKKm)	EBITDA (DKKm)	EBIT (DKKm)	PBT (DKKm)
12/07	1,591.3	258.5	188.4	50.5	5.1
12/08	1,589.6	250.9	219.2	88.3	60.4
9 mth/09	975.8	200.6	183.2	84.0	63.8

Note: Financials for Fibertex.

Investment summary: A hidden gem

Fibertex, a medium-sized manufacturer of PP nonwovens, is a wholly owned subsidiary of the Danish company Schouw & Co and operates through two divisions: Industrial Nonwovens and Personal Care. The group manufactures nonwovens for industrial and hygiene applications. Schouw is an industrial conglomerate involved in a variety of major industries – industrials, agriculture, nonwovens and computing. Consequently, Fibertex's performance is a limited driver of the shares.

Competitive position

Fibertex is ranked in the top 10 of global PP manufacturers. Around 65-70% of PP sales are in the hygiene market and the group is a top three hygiene spunmelt supplier in Europe. Fibertex's Personal Care division, with sales around of DKK1bn, manufactures spunbond and meltblown nonwovens. These nonwoven fabrics are suitable for use in baby nappies, feminine hygiene and incontinence products such as leg cuffs, top sheets, core covers and back sheets. The Industrials division makes needlepunch nonwovens for a wide range of automotive, construction, filtration, furniture, flooring, geotextile and horticultural end uses under the 'Fiber' brand name. Fibertex has major production activities in Denmark, the Czech Republic and Malaysia.

Financials

Fibertex's most recent results for Q309 showed a slight drop in revenue to DKK332.8m (DKK398.1m), due to reduced selling prices caused by lower demand particularly in Personal Care. Profitability, on the other hand, improved substantially (DKK64m vs DKK34m), reflecting a decline in raw material prices coupled with company-wide efficiency measures. The group reduced net debt by c DKK170m thanks to improved profitability and working capital management. Based on current raw material costs, company financial year guidance is for revenue of DKK1.5bn and profits of c DKK80m. This represents an upward revision on H1 guidance and reflects stabilisation of cyclical business areas and the continued robust performance of the personal care business. For 2010, the group is expecting to improve results through improvements in market conditions and the launch of new products, especially in industrial areas.

Price* **DKK99.5**

Market Cap **DKK2.5bn**

* Schouw & Co, priced as at 14 January 2010.

Share price graph



Share details (Schouw & Co)

Code **SCHO**
 Listing **COPH**
 Shares in issue **25.5m**

Price (Schouw & Co)

52 week **High** **Low**
DKK107.0 **DKK63.0**

Balance sheet as at 30 September 2009*

Debt/Equity (DKKm) **120**
 Net debt (DKKm) **769**

* Fibertex

Newsflow

Full year 2009 results: 11 March 2010

Segment revenues by geography

Industrials		Hygiene	
Denmark	Czech Republic	Denmark	Malaysia
62%	38%	62%	38%

Estimated revenues by product

Industrials	Hygiene
30%	70%

Analyst

Paul Singer **020 3077 5700**
 psinger@edisoninvestmentresearch.co.uk

Fiberweb (Hygiene & Industrials)

Year End	Revenue (£m)	PBT (£m)	EPS (p)	DPS (p)	P/E (x)	Yield (%)
12/08	512.8	9.0	7.4	4.2	9.2	6.2
12/09e	452.5	11.0	9.1	4.2	7.5	6.2
12/10e	458.1	13.5	10.2	4.2	6.7	6.2

Note: Consensus estimates

Investment summary: A leading PP nonwoven producer

Fiberweb is a leading producer of nonwovens, and a top three producer in PP nonwovens. In Europe, Fiberweb's market share is just under 25%, ahead of PEGAS (mainly Central Europe). In the US, though, the group currently lags behind PGI (50% market share), with a market share around 15%, although the joint venture with Fitesa has strengthened its position. The shares have recovered from their lows as trading to the end of 2009 was ahead of expectations. However, trading on less than c 7x 2010 consensus earnings, the valuation remains undemanding compared with its peers.

Competitive position

The group operates its business in two areas, Hygiene and Industrial. In Hygiene, the current objectives are to restructure and refocus the business and attain significant margin growth, while renewing its asset base. In the Industrial business, its key strategic growth area, the group has made good progress. It has a strong and well-established brand for housewrap (Tyvar) in the US. This leading position means it should benefit if US construction spend picks up. New roofing products in Europe and the US have seen good volume growth and the first sales of Defencecell to military markets should gain momentum. The group has 16 plants in eight countries across Europe, North America and Asia. We believe it is well positioned in technology, with around three-quarters of its production based on recent or latest technologies.

Financials

The group's financial position is improving. At the interims net debt to EBITDA was a comfortable 2.3x. The recent pre-close trading statement was positive, with the company expecting to exceed market expectations for the full year. Sales trends have continued to stabilise with H2 volumes now slightly up on last year. Underlying operating profit for the year to date is significantly ahead of 2008, with a further improvement in operating margins evident. This improving trend is expected to continue into 2010. Management remains confident of doubling group margins over the medium term, is committed to reducing the net debt/EBITDA gearing ratio to two times, and targets at least a 30% dividend payout ratio with dividend cover at least two times.

Price* **68p**
Market Cap **£83m**

* Priced as at 14 January 2010.

Share price graph



Share details

Code **FWEB**
Listing **FULL**
Shares in issue **122.4m**

Price

52 week High **76p** Low **25p**

Balance sheet as at 30 June 2009

Debt/Equity (%) **90**
NAV per share (p) **132**
Net debt (£m) **150**

Newsflow

Q409 results: February 2010
JV with Fitesa announced

Revenues by geography

North America **42%** Europe **51%** RoW **7%**

Revenues by product

Industrials **33%** Hygiene **67%**

Analyst

Paul Singer **020 3077 5700**
psinger@edisoninvestmentresearch.co.uk

Freudenberg (Industrials)

Investment summary: Small in PPs, but largest nonwovens producer

Freudenberg, a private company, is regarded as the world's largest nonwoven producer although it holds a relatively small position in polypropylene. The company's nonwovens activities are conducted primarily through its Nonwovens area (20% of 2008 sales), but also through its Household Products segment. The Nonwovens business area comprises two business groups, Freudenberg Nonwoven and Freudenberg Politex Nonwovens. In 2008, these groups generated sales totalling €997m. At year-end 2008, the business area had a workforce of 5,455.

Competitive position

Freudenberg is the largest producer of nonwoven fabrics worldwide, with around a 7% market share. The group has a strong competitive position, with a wide range of well established brands across the various business groups. The majority of its nonwovens are manufactured from polyethylene and polyester raw materials. While the group is looking to develop its nonwoven business, we do not believe it has any firm intentions to move more aggressively into the PP nonwoven industry.

Nevertheless, it is well positioned to develop the PP nonwovens business on the back of its strong position in other nonwoven markets. Freudenberg Nonwovens has manufacturing facilities worldwide. Many of the company's European operations are in Germany, using the group's proprietary technology, which we believe to be close to an industry low-cost position. The company also operates in Asia through a number of joint ventures with local manufacturers.

Financials

Being a privately owned company, the group does not publish detailed financial information and divisional financial disclosure is limited to turnover. Business group revenues for 2008 were €997m, down nearly 4% over 2007. In its annual report for 2008 the company reported that its Freudenberg Nonwovens business (2008 sales €778m vs €816m) had been hit by a combination of rising input costs and falling demand particularly in the US, which also affected the business through a weaker currency. Politex Nonwovens, which supplies products for the construction and home products industries, reported that sales held up well compared to 2007 despite the difficult market environment (€219m vs €217m). Politex was, however, cautious on the prospects for 2009 and was reacting through cost cutting and productivity improvements. Overall, the group remains in a healthy financial position with low debt levels and good cash flow, with limited financial constraints for developing its business.

Key points

- Nonwoven group sales (2008) €997m
- Market share 6.5%
- World's largest nonwoven producer

Newsflow

Q409 results: March 2010

Estimated revenues by product

Industrials	Hygiene
90%	10%

Analyst

Paul Singer 020 3077 5700
psinger@edisoninvestmentresearch.co.uk

Low & Bonar (Industrial)

Year End	Revenue (£m)	OP (pre non recurring) (£m)	OP (£m)	Capex (£m)
11/08	229.9	16.2	N/A	8.7
6mths to 05/08	108.6	8.9	7.1	4.3
6mths to 05/09	94.1	7.6	5.5	5.4

Note: Financials for Performance Textiles division.

Investment summary: Primarily involved in PP geotextiles

Low & Bonar's presence in nonwovens is within its Performance Technical Textiles business. This was largely achieved through the 2006 acquisitions of Colbond and Geo-Tiptex. The group's primary involvement in PP nonwovens is through Geo-Tiptex, which manufactures geotextiles for various structural and civil engineering end uses. Colbond is a producer of synthetic non-woven textiles for flooring, automotive and construction applications and three dimensional polymeric fabrics for civil engineering, building and industrial applications. These products are primarily manufactured from polyester but also from polypropylene.

Competitive position

Geo-Tiptex is a major player in its business area. The company's products are offered using the Tiptex brand name: Tiptex B/N, a needle-punched/thermally bonded nonwoven features high water permeability; Tiptex BS features enhanced mechanical properties. The principal competitors in this field include Propex, Royal Ten Cate and Thrace Plastics. Low & Bonar's strategy is to continue to develop its portfolio of businesses into leading global businesses through innovation, geographical expansion and operational process improvement. Growth will be primarily organic but may be complemented by selective acquisitions. Geo-Tiptex has its manufacturing operations in Hungary. Capacity has recently been expanded to serve the East European market. Colbond has operations in Europe, the Asia-Pacific region and North America.

Financials

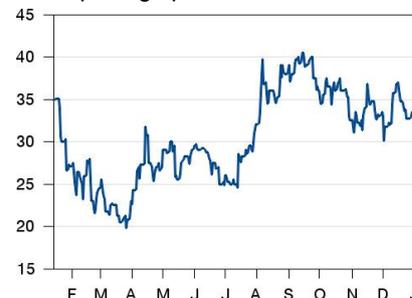
Interim results to May 2009 show the Performance Technical Textile's operating margin stable at c 8% on a 13% fall in revenues to £94.1m. The stable margin in a deteriorating market reflected strong performances from the Fabrics and Colbond businesses, which benefitted from lower raw material costs, reduced manufacturing expenses and new products. Recent management trading comments in December 2009 suggest second half profit will be materially up compared with the first half. Continued focus on cash generation will result in net debt being materially lower than the first half.

Price* 33.75p

Market Cap £97m

* Priced as at 14 January 2010.

Share price graph



Share details

Code	LWB
Listing	FULL
Shares in issue	286.2m

Price

52 week	High	Low
	40.50p	19.75p

Balance sheet as at 31 May 2009

Debt/Equity	40
NAV per share (p)	73
Net debt (£m)	99

Newsflow

Final results: February 2010

Revenues by geography

Europe	US	Other
75%	15%	10%

Estimated revenues by product

Industrials	Hygiene
100%	N/A

Analyst

Paul Singer	020 3077 5700
psinger@edisoninvestmentresearch.co.uk	

PEGAS Nonwovens (Hygiene)

Year End	Revenue (€m)	EBITDA (€m)	EPS (€)	DPS (€)	P/E (x)	Yield (%)
12/08	142.7	39.5	1.60	0.85	10.7	5.0
12/09e	126.7	39.5	2.10	0.96	8.2	5.6
12/10e	131.7	36.7	2.00	0.92	8.6	5.4

Note: Consensus estimates, CZK25.9/€.

Investment summary: Focus on Central Europe

PEGAS Nonwovens is one of the major quoted nonwoven companies. The majority (c 90%) of its revenues come from hygiene products with c 10% coming from industrial products. The shares have recovered significantly from their trough levels seen in early 2009 in anticipation of a cyclical recovery in the nonwovens markets, increased productivity and 100% capacity utilisation. The shares currently trade at c 8x 2009 consensus earnings.

Competitive position

The group's medium-term strategic focus is to continue to increase its market share, while retaining its technological leadership in the market for spunmelt nonwoven textiles for disposable hygiene products in Europe.

PEGAS produces primarily polypropylene but also polypropylene/polyethylene-based spunmelt nonwoven textiles for use in personal/disposable hygiene products. It is estimated that the group is Europe's second-largest producer, in terms of output of PP- and PP/PE-based spunbond and meltblown nonwovens, with a market share of approximately 11% of the European installed PP- and PP/PE-based spunmelt nonwoven textile production capacity. PEGAS's production facilities are located in Central Europe, which gives it a relatively low cost base. Current production capacity is fully sold out for 2009. It has plans to aggressively grow capacity through investments in technologically advanced machinery. PEGAS's major clients are Procter & Gamble, Kimberly-Clark, SCA, Ontex, Johnson & Johnson and Hartmann.

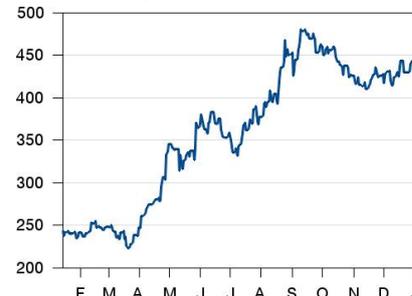
Financials

PEGAS Nonwovens is in a solid financial position. The net debt to EBITDA ratio is 2.6x. Q3 results showed an increase in EBITDA y-o-y, but masked a worsening in Q3, reflecting the rise in raw material prices (on average up 20% q-o-q). The group has increased its guidance for 2009. Total sales and production is likely to be higher than in 2008 and 2009 EBITDA is expected to decrease by a maximum of 5%. The group has given an optimistic statement for 2010, stating that production capacity is likely to be sold out and that there will be a further reduction in debt. For 2010, key sensitivities (in addition to raw material prices) will be the decision to expand outside the Czech Republic (which could negatively impact margins in the near term), and the CZK/€ exchange rate.

Price* CZK441.1
Market Cap CZK4.1bn

* Priced as at 14 January 2010.

Share price graph



Share details

Code PEGAS
Listing Prague
Shares in issue 9.23m

Price

52 week High Low
CZK480 CZK223

Balance sheet as at 30 September 2009

Debt/Equity (%) 85
Net debt (€m) 103.7

Newsflow

Q409 results: February 2010

Revenues by geography

C & E W Europe Other
Europe
27% 60% 13%

Estimated revenues by product

Industrials Hygiene
10% 90%

Analyst

Paul Singer 020 3077 5700
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Polymer Group (Hygiene)

Year End	Revenue (\$m)	PBT (\$m)	EPS (\$)	DPS (\$)	P/E (x)	Yield (%)
12/07	1,060	(30.3)	(2.13)	0.0	N/A	N/A
12/08	1,145	5.0	0.27	0.0	63.0	N/A
9mth/09	639	13.1	1.48	0.0	11.5	N/A

Note: 12/08 results include special charges of \$20.09m.

Investment summary: A top three, focused PP nonwoven player

Polymer Group (PGI) is a leading manufacturer of nonwoven materials and products. It is 68% owned by the private equity group Matlin Patterson Global Advisers. The shares have recovered from their trough levels seen early in 2009 in anticipation of a cyclical recovery, and now trade at 11.5x nine-month 2009 EPS.

Competitive position

PGI is the sixth largest producer of nonwoven fabrics worldwide, with around a 4% share of industry sales. Within PP nonwovens the group has an even stronger position. PGI manufactures nonwoven fabrics for hygiene, medical, industrial and wipe applications.

PGI is focused on growth in the developing regions of Asia and Latin America. It has recently bought out the minority interest of its Argentina operations and has just completed the acquisition of Tesalca-Technovo in Spain. Subsequent to this deal, PGI's global PP nonwoven capacity is around 285kt, encompassing a broad range of technology.

In 2008, PGI's largest customer was Procter & Gamble, which accounted for 11%, or about \$125m, of PGI's total sales. Sales to the group's top 20 customers represented around 50% of sales in 2008.

Finances

The group's recent Q309 results revealed hygiene and medical markets remained stable, but volumes were negatively affected by industrial markets and plant consolidations. Q3 EBITDA was up 40%, with a sequential improvement in top-line results. However, the company warned that Q4 would be down on Q3 owing to a pick-up in PP prices from September. Although price escalation clauses cover 35-40% of global sales, Q4 margins should be lower. The group's balance sheet is solid with a \$100m reduction in net debt over the last 12 months, owing to continued growth in cashflows. Net debt/EBITDA stands at 2.1x, down from 3.6x a year ago. The group expects adjusted EBITDA for year to December 2009 to be well above fiscal 2008 levels comparatively.

Price* \$17.00
Market Cap \$339m

* Priced as at 14 January 2010.

Share price graph
 N/A

Share details

Code POLGA
 Listing OTC BB
 Shares in issue 19.6m

Price

52 week High Low
 \$17.0 \$4.2

Balance sheet as at 31 October 2009

Debt/Equity (%) 300
 Net debt (\$m) 290

Newsflow

Q409 results: February 2010
 Acquisition of Tesalca

Revenues by geography

US	Europe	Latin America	Other
44%	16%	27%	13%

Estimated revenues by product

Industrials	Hygiene
25%	75%

Analyst

Paul Singer 020 3077 5700
 psinger@edisoninvestmentresearch.co.uk

Suominen Yhtymä (Hygiene)

Year End	Revenue (€m)	PBT* (€m)	EPS* (€)	DPS (€)	P/E (x)	Yield (%)
12/08	214.6	1.0	0.04	0.02	42.0	1.2
12/09e	178.0	1.0	0.04	0.00	42.0	N/A
12/10e	183.0	1.0	0.02	0.01	84.0	0.6

Note: Consensus estimates.

Investment summary: Leader in European nonwoven wipes

Suominen is a European leader in the production of nonwoven wipes. The group operates two divisions: Wiping, which represents its nonwoven activities, and Flexibles, which manufacturers packaging. Wiping is the group's largest business area representing around two-thirds of sales. The group manufactures some PP fibres for internal use in nonwoven fabrics. Despite recent improvements in cashflow generation, the group is carrying a comparatively high level of debt compared with its peers which may be weighing on the share price.

Competitive position

Suominen operates almost entirely in the hygiene segment of the nonwovens market and sales are almost exclusively to Europe. The company's nonwoven activities are conducted through its Wiping division (2008 sales: €139m) through two businesses, Suominen Codi Wipes and Suominen Nonwovens, which contribute 50% of divisional revenues, respectively. Codi Wipes manufactures wet wipes for the baby, cosmetic and personal care markets from its production facility in the Netherlands. Codi Wipes uses nonwoven materials supplied by Suominen Nonwovens. Apart from supplying raw materials for internal use, the Nonwovens business supplies third-party manufacturers including producers of nappies, adult incontinence and feminine hygiene products.

Financials

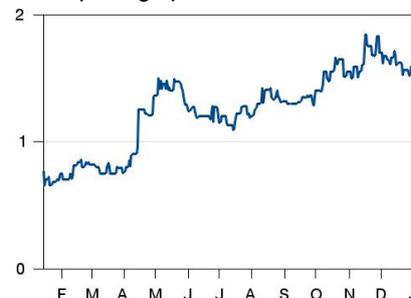
The group's most recent results for the nine months to September 2009 showed an 18% decline in revenues to €134.5m compared with the same period in 2008, due to a fall in raw material prices (albeit oil-based input costs rose during the period), and a consumer shift towards low-priced products. However, Suominen returned to profit during the period, registering an operating profit of €1.2m compared with a loss of €2.9m in 2008. This reflected a reduction in operating expenses due, in part, to rationalisation measures. The nonwovens business underperformed the group as a whole with sales falling 27% to €44m, with sales of hygiene products in particular impacted by the poor market conditions. The business also reported a decline in operating expenses and a rise in operational efficiency. The group expects net sales to decline overall for the full year compared with 2008 while rationalisation should mean Q4 performance will be in line with Q3.

Price* €1.68

Market Cap €40m

* Priced as at 14 January 2010.

Share price graph



Share details

Code SUO1V
 Listing OMX Helsinki
 Shares in issue 23.7m

Price

52 week High Low
 €1.84 €0.65

Balance sheet as at 30 September 2009

Debt/Equity (%) 142
 Net debt (€m) 52

Newsflow

Q4 results: March 2010

Revenues by geography

Finland	Nether-lands	Other Europe	RoW
17%	7%	67%	9%

Estimated revenues by product

Industrials	Hygiene
20%	80%

Analyst

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Appendix: Glossary

Exhibit 21: Glossary

Air laid nonwoven/web	An air laid web that has been bonded by one or more techniques to provide fabric integrity. A web of fibres produced by the air laid process.
Air laying/Air laid process	A nonwoven web forming process that disperses fibres into a fast moving air stream and condenses them onto a moving screen by means of pressure or vacuum.
Batt	A collection of fibres assembled into a sheet suitable for needlepunching bonding by some method. The term is synonymous with web.
Card	A machine designed to separate fibres from impurities, align and deliver them to be laid down as a web or to be further separated and fed to an air laid process. The fibres in the web are aligned with each other predominantly in the machine direction. The machine consists of a series of rolls and drums that are covered with many projecting wires or metal teeth.
Carded nonwoven	A nonwoven produced from a carded web that has been bonded by one or more technologies to provide fabric integrity.
Denier	The measure of a weight per unit length of a fibre. Denier is numerically equal to the weight in grams of 9,000m of the material. Low numbers indicate fine fibre sizes and high numbers indicate coarse fibre sizes. The tex system is used in countries outside the United States. A tex is numerically equal to the weight in grams of one kilometre of fibre. It can be calculated by dividing the denier by nine.
Disposables	A general classification of end-markets where the product made from the nonwoven has a relatively short life. Examples of some of the major categories are cover stock for baby nappies and sanitary napkins, wipes, fabric softener, medical apparel and associated items and filters.
Dry laid nonwoven/web	Dry laid web of fibres that has been bonded by one or more bonding techniques to produce a fabric with integrity. A web of fibres produced by the dry laying process.
Durables	A general classification of end-markets for nonwoven materials. The main characteristic of these markets is that the end products have a long life and are more or less permanent. The larger of these markets include apparel interlining, automotive, home furnishings and bedding construction materials, carpeting, geotextiles and roofing material markets.
Fabric	A sheet structure made from fibres, filaments or yarns.
Filament fibres	Filaments are extruded fibres produced from a variety of polymers. Filaments are continuous fibres that are produced by forcing a molten polymer through a spinneret. If cut to a shorter length, say 3.8 cm, the term filament fibre changes to "staple" fibre.
Geotextile	A permeable fabric used in civil engineering construction projects such as paving, dams, embankments and drains for the purpose of soil stabilisation, sedimentation control, erosion control, support and drainage.
Industrial fabrics	Textiles for non-apparel and non-decorative uses. Examples are wipers, cable wrappings and geotextiles.
Melt blowing	A nonwoven web forming process that extrudes and draws molten polymer resins with heated, high velocity air to form fine filaments. The filaments are cooled and collected as a web onto a moving screen. In some ways the process is similar to the spunbond process, but melt blown fibres are much finer and generally measured in microns. Melt blowing is a spunlaid process. The term is also spelled 'meltblowing'.
Needle	In the context of the nonwoven industry, the term refers to the barbed needle used by the needlepunched technology. The needles hook the fibres and perform the interlocking function. There are many variations in needle design, barb placement, barb angle, and barb shape depending upon the fibre and desired product outcome.
Needlepunched or Needlepunching	Mechanically binding a web to form a fabric by penetrating the web with an array of barbed needles that carry tufts of the web's own fibres in a vertical direction through the web.
Nonwoven fabric	A fabric made directly from a web of fibre, without the yarn preparation necessary for weaving and knitting. In a nonwoven, the assembly of textile fibres is held together 1) by mechanical interlocking in a random web or mat; 2) by fusing of the fibres, as in the case of thermoplastic fibres; or 3) by bonding with a cementing medium such as starch, casein, rubber latex, a cellulose derivative or synthetic resin. Initially, the fibres may be oriented in one direction or may be deposited in a random manner. This web or sheet is then bonded together by one of the methods described above. Fibre lengths can range from 0.25 inch to 6 inches for crimped fibres up to continuous filament in spunbonded fabric.
Polypropylene fiber	A manufactured, olefin fibre made from polymers or copolymers of polypropylene. One attractive physical characteristic of polypropylene is its specific gravity of less than one, which results in a larger area volume yield per kilogram or pound of resin or staple fibre compared to competitive fibres. Polypropylene has a relatively low melt temperature which restrict its uses in many nonwoven markets, but it has good strength properties, softness, and chemical resistance to strong acids and alkalis. Major nonwoven markets for staple and spunlaid polypropylene include cover stock, medical apparel and related, geotextiles, carpeting, blankets, automotive and various other durable markets.
Short-life nonwoven	Synonymous with Disposable nonwoven.
Spunbond, Spunbonded	A spunlaid technology in which the filaments have been extruded, drawn and laid on a moving screen to form a web. The term is often interchanged with "spunlaid," but the industry had conventionally adopted the spunbond or spunbonded term to denote a specific web forming process. This is to differentiate this web forming process from the other two forms of the spunlaid web forming, which are melt blown and flashspinning.
Spunbond nonwoven, Spunbonded nonwoven	A fabric formed from spunbonded process that has been bonded by one or more methods to provide fabric integrity.

Spunbond/Melt blown composite	A multiple layer fabric that is generally made of various alternating layers of spunbond and melt blown webs: SMS, SMMS, SSMMS, etc.
Spunlace bonding, Spunlaced bonding	The method of bonding a web by interlocking and entangling the fibres about each other with high velocity streams of water (synonymous with Hydroentangling). The web or fabric may have other bonding methods in addition to spunlacing. Spunlacing, not to be confused with spunlaid, is generally produced from a web made up of staple fibres from a dry formed, carded system, but small quantities of spunlace bonding are done on production lines that use a wet laid forming process. A recent technical development is the production of a spunlaced nonwoven from a spunlaid, continuous filament web.
Spunlaid	A method of forming a web in which a polymeric melt or solution is extruded through spinnerets to form filaments which are laid down on a moving screen. Melt spun forming processes include spunbond, flash spinning and melt blown. The most common polymers used are polypropylene, polyester and polyethylene.
Technical textile	A general term used to describe a broad range of textiles that are designed for specific applications. These textiles include nonwovens, wovens, knits and film composites. The types of end-products usually associated with technical textiles are nonwovens and certain woven, knitted and film fabrics used in products, such as protective apparel (hazardous waste, fire, clean room, military, etc.), parachutes, 'hi-tech' tenting materials, flags, automotive interior fabrics and housewrap – to name a few.

Source: Edana

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