

## **THE NYLON LED REVIVAL OF ICI FIBRES.**

### **The Trading Environment in the 70's:**

Europe was inundated with Eastern textile imports. This was not only in labour intensive garments but also fabric and fibre from new producers using the latest licensed European technology. So began the accelerated demise of the European Textile Industry.

In common with most fibre producers ICI Fibres growth in man-made fibres was focussed on the more versatile and lower cost Polyester against the more expensive Nylon. Over investment in Polyester and a declining home market left European Fibre producers nursing losses in what had become a commodity market.

Apparel textiles were the most vulnerable. Polyester textured filament and polyester cotton blending fibre suffered badly. Nylon had also lost ground to Polyester and imports but had retained its hold in markets where its unique properties and technical service were valued.

An EC initiative to resolve the European over capacity problem, known as the "D'AVIGNON AGREEMENT" permitted the controlled deployment of each company's capacity in both Polyester and Nylon. Under the auspices of CIRFS (European Man-Made Fibres Association), the industry was given time to overcome its fundamental imbalance of supply and demand. During this period, it was permitted for producers to exchange quotas and therefore to foster market rationalisation.

### **ICI Fibres Strategy:**

In the mid-70's ICI FIBRES Board chose a counter intuitive switch from Polyester to Nylon and uniquely to exit the commodity Polyester market and embarked on a major cost cutting programme to secure its survival. The key ingredients were withdrawal from much of the Polyester business, disposal of the internal texturing and downstream yarn reprocessing operations, divestment of its non-woven businesses, investment in single stage filament production and the closure of a vast number of draw twist machines, which resulted in site closures and major reduction in plant footprints. The organisational structure was simplified, layers of management removed and overheads downsized for a much simpler Company.

It exchanged its Polyester quotas for Nylon from Polyester producers exiting Nylon sectors, such as MONTEFIBRE, and purchased quotas from other Nylon producers who were exiting the market, such as COURTAULDS and MONSANTO. It also sold Polyester positions in Industrial Yarns and Staple fibre to HOECHST and ENKA.

It switched its research, development, and investment priorities from Polyester to Nylon and began to employ its Polyester derived technologies to Nylon in both processes and products. The POY and the T30 technology package of process and product developments associated with the last phases of Polyester development provided the basis to radically improve Nylon processes and products, which led to the TACTEL concept the halo brand of the Company's renaissance in the 80's.

POY significantly reduced manufacturing costs and facilitated market share gain as competitors were late to follow ICI's lead. It also allowed the Company to promote its superior Nylon 6.6 fibres against the lower quality Nylon 6 of its commodity competitors. The conversion of two stage Nylon filament processes to POY was the major driving force in turning the fortunes of the Company and OESTRINGEN delivered the rapid expansion of capacity which gave the Company the means to exploit the opportunities afforded by its increased Nylon quota and its investment in new technology.

Adversity also brought collective commitment from the whole Company to the survival strategy and fostered unprecedented close and harmonious cooperation of all Departments, from R&D through to Production and all Support Services without which, the pace and scale of the Company's transformation would not have been possible. Survival and common cause galvanised the whole Company.

Though Fibres had begun implementing the Strategy during the 70's the ICI Group at Millbank in London became impatient with progress and in 1981 Harvey Jones then Chief Executive of the ICI Group, on a "Black Friday," led a major restructuring of the Fibres Board and set ambitious targets for recovery. The Board was reduced to a compact Executive Team with only three Directors, Commercial, Technical and Administration and a Chairman and subsequently down to three in total.

Implementation accelerated and took the market by surprise. The Company built a major share of the European market and penetrated the US textured yarn and hosiery markets introducing the use of POY. In a few years in the early 80's ICI Fibres moved from heavy losses to respectable profitability and generated positive cash flows. It held that position until the business was merged with Du Pont's Nylon business in an exchange for its acrylic polymer business in 1993.

### **Technology:**

ICI FIBRES had made significant innovations in Polyester technology in the 70's in an attempt to invent its way out of the losses. Creative developments were made in fundamental fibre physics, high-speed spinning, single stage direct draw technology, fine denier spinning, air-jet-texturing and piece dyeability. This drove the evolution of the T30 single stage yarn technology with the flexibility to produce, POY, Flat and Textured yarns in single stage processes. Key elements of the technology were applicable to Nylon and of great benefit to the Nylon restructuring programme and eventually the development of the TACTEL products.

The Development of POY Nylon was initiated in the Pontypool Research Department in the 70's before its transfer to Harrogate. Polyester POY was already in commercial use at that time. The Department persevered with the project with little support from the Company leadership, then focussed on Polyester with no wish to be distracted. This development work continued after Nylon Research was relocated to Harrogate and by the late 70's and a change of heart from the leadership, the Company had the process and engineering capability to produce Nylon POY for both medium denier and hosiery yarns.

The cost savings of closing draw twist plant were of such a scale that each spinning machine conversion could almost pay for itself within a year, which allowed the Company to raise the capital investment despite its poor profitability. The OESTRINGEN plant was equipped with many of the modular T14 spinning machines, which provided a comparatively simple conversion to POY. The plant had a history of high quality and high productivity and prowess in process, engineering and production skills and was chosen to lead the programme.

During the conversion, the OESTRINGEN Plant and Engineering Managers worked in close cooperation with the Harrogate based Research and Engineering Managers to refine the processes, products, and engineering detail. They were also involved in the development of the high-speed multi-cop winders required for both POY and Direct Draw with the German BARMAG Fibre Machinery Company. This resulted in the development of the large package, four-cop 4.6 SSD winder, the work horse of the transformation.

In parallel, work took place on developing highly oriented spun yarns at higher spinning speeds and on air-jet-textured Nylon filament. This resulted in a new generation of high-quality low denier flat yarns, traditionally supplied into light weaving and warp knit fabrics and a cotton like fine denier Nylon product which led the creation of the TACTEL brand.

The Company was then equipped to supply single stage products directly into both the textured and flat fabric markets, with POY concentrated at OESTRINGEN and direct draw at GLOUCESTER, the latter being equipped with the more suitable modular T12 machines and the traditional producer of fine flat yarns.

The T30 technology continued to be developed and the fully automated machines at Pontypool were to produce large package, high quality, piece dyeable fine denier flat yarns to replace its two-stage draw twist products from WILTON. T30's were also installed in the US Affiliate FII in their Plant in Shelby South Carolina and in the SANS Plant in Cape Town, South Africa.

The T30 in-line, air-jet-textured yarn converted into a very fine silk like fabric and was marketed and branded MITRELLE. Its aesthetics were undeniably natural, but it was expensive and natural silk was preferred in high fashion and it was eventually withdrawn. However, its development and commercialisation provided valuable and contemporary marketing and promotional experience.

The in-line texturing T30 machines at Pontypool were all eventually converted to direct draw to produce the more commercially successful TERINDA warp knit fabrics and piece dyeable fine denier flat yarns. The machines continued to operate well into the Du Pont era.

### **Plant Footprint:**

The Polyester plants at WILTON and KILROOT were closed. The production of Nylon industrial yarns and carpet fibre continued at the DONCASTER plant. The Polyester polymer assets at WILTON were redeployed to manufacture PET packaging polymer a pioneering development in Europe under the brand name

MELINAR. Surplus polymer plant was sold to overseas affiliates. The new technology Polyester T30 investment was completed at Pontypool and retained.

The non-woven diversification products were sold off. TERRAM the geotextile fabric produced at Pontypool was sold as a business unit to Exxon. The shoe linings. CAMBRELLE in WORKINGTON, became a self-standing company CAMTEX.

LONTEX, the carpet fibre downstream re-processing operation became a self-standing Company and the in-house INTEX false twist texturizing plants were sold to the trade.

### **Nylon 6.6 Polymer:**

ICI PETROCHEMICALS Nylon 6.6 intermediates technology used the expensive Adipic Acid based HMD technology against the lower cost Du Pont Butadiene and BASF's Adiponitrile technologies. This was recognised but the profitability of the Nylon fibre business in the 70's did not justify the investment in new intermediates technology, particularly against the Nylon fibre restructuring capital demands. The profitability of ICI FIBRES was therefore always constrained against the competition. And so, it remained through the 80's but with a more realistic internal transfer pricing mechanism from the upstream sister supplier.

This provided a major synergy for DuPont after the merger.

### **The People:**

The need to take drastic action to save the Company and the strategy to deliver a profitable slimmed down business was communicated in detail through the organisation and progress updated regularly. This engagement and communication programme was vital to justify the heavy job losses at all levels up to and including the Board and to sustain motivation.

Thousands of jobs were lost. The Company was determined to conduct this programme in a socially responsible way and it was achieved completely by voluntary redundancy supported by extensive job finding support resources.

### **Marketing and TACTEL:**

The cost savings and rapid market impact of POY and Direct Draw were without doubt the saviour of the Company. However, they did just a better job of what had gone before.

It became clear that the Company had become internally focussed. The market was dictating the fortunes of the Company and it was vital to create a more balanced and market orientated drive to deliver the promise. The Company needed to reinforce its market position and communicate its message to lift it from the moribund survival and commodity status of the Fibre Producers.

A multi-disciplined team was set up, affectionately known as the A TEAM, to manage the commercialization of the Strategy and to enhance the Company's image and standing. The Team comprised the Senior Managers of Research, Textile Development, Sales, and Marketing and was led by the Sales and Marketing

Director. The Team directed the product development, commercialisation, and marketing elements of the strategy. It bought in marketing expertise to formulate its marketing and promotion plans and set up a companywide Marketing Orientation training programme with INSEAD to turn around the Company's thinking in support of the strategy.

Nylon has distinct attributes of wear resistance, appearance retention and easy care and takes acid dyes for bright colours. It was decided then that the NEW NYLON should be launched into SPORTSWEAR, a less traditional and performance-oriented market and open to innovation. A lead product was needed, and work had taken place in TDD to try T30 style air-jet-texturing, using a basic 78/34 filament feed stock. This produced a cotton like feel in woven fabrics and hence the pioneering move into SKIWEAR, which opened new possibilities for garments stuck in shabby spun fabrics or shiny polyester.

The air jet textured weaving products were followed with a weft knitting product with a topical finish to improve moisture transfer and very fine low denier/filament hosiery yarns.

It was decided to brand the NEW NYLON products TACTEL, a name drawn from the ICI Fibres bank of registered trademarks. The brand schedule determined it was the flagship halo Brand and that any product carrying it would have distinctive properties to enhance Brand value. It was not to be devalued by using it as generic for all of ICI's Nylon textile fibres, albeit from new processes.

### **Promotion:**

The A TEAM brought in expertise from ICI Paints, Unilever, Professor Larreche from INSEAD, and Tim Delaney from Legas Delaney and others.

SPORTSWEAR end uses were the chosen vehicle to launch the new products and their promotion was led by a Team of sports stars under a multi-national ICI FIBRES RECORD SPORTS TEAM composed of Hani Wenzel, Swiss, Skiing, Flo Jo, US Athletics, Sebastian Coe, UK, Athletics, Nick Faldo, UK, Golf, and Keke Rosberg, Finnish, F1 Driver. The individuals were used to endorse the products and appeared at promotional events.

TACTEL was introduced to the sportswear and fabric producers at the Munich ISPO Sportwear Exhibition in 1983 and launched at a Ski Championship in AVORIAZ in France, organised by IMG Promotions and involving Hani Wenzel and the chosen fabric partners and major garment brands. The professional SKIWEAR fashion shows, supported by the garment producers was also shown internally to motivate the staff and to involve them in the success of the strategy and to the ICI Main Board to sell the strategy and sustain their financial support as the Company invested in its future.

By the early 80's the focus moved to the international media exposure of Formula One, when the relationship with Keke Rosberg led to sponsorship of the Williams F1 Team. They welcomed the non-tobacco sponsorship, and we had a successful partnership ending in 1989 after several Driver and Team championships.

The racing car livery was the ICI roundel and TACTEL. The sponsorship was financially supported by several other ICI divisions and ICI National Trading Companies around Europe who conducted their own co-promotions at the various races.

This allowed ICI FIBRES, who led the promotion to enjoy high exposure at a very modest cost it could afford. Both fabric and garment producers also participated in their home races, and they were allowed to put their own Company names on the end plates of the front wings. It cemented partnerships with the downstream customers, who also were invitees to the races.

The combination of high Worldwide Media Exposure and customer participation put ICI FIBRES and TACTEL on the map and consolidated the Company as a leader in the market.

### **Other Nylon Products and Brands:**

The Company continued to enjoy those traditional elements of the market where nylon's properties secured its position, carpets, heavy fabrics for industrial and military use, parachutes, computer tapes, linings, linings and so on.

It also fashioned new Nylon products and brands in other sectors with varying degrees of success, using names from its trademark Bank. In carpets its house brand TIMBRELE was supported by an anti-soil product branded QUINTESSE. In luggage it was QAZUL and in upholstery and as a premium carpet fibre, TACTESSE. The latter proved a great success in the European Velour carpet market, and also later spearheaded carpet staple sales into the USA. Collectively adding value to the Companies differentiation in the market.

### **The Result:**

ICI FIBRES in a brief period in its history had turned round the Company's fortunes from a heavily loss-making polyester orientated commodity supplier to a profitable Internationally recognized leader and innovator in Nylon fibres. This was achieved by the whole company engaged and committed to a counter-intuitive and unique strategy to switch its fortunes back to nylon against the dominant polyester. It created seamless and creative cooperation between all the technology functions to reequip the plants with high productivity and low capital cost single stage technology. This coupled with an imaginative Marketing and Promotion programme not only put ICI FIBRES and TACTEL on the map but did wonders for the ICI GROUP's International image.

Alan Pedder CBE 1976 – 1989  
Research and Engineering Manager  
Technical Director  
Sales and Marketing Director  
Managing Director.

**END**

