

# Annual Report 1999





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The Annual Report is a translation from the original Finnish text.

### STOCKHOLDER INFORMATION

### ANNUAL GENERAL MEETING

The Annual General Meeting will be held on Thursday, March 23, 2000 at 4.00 p.m. at Group headquarters in Tampere, Finland, Yrittäjänkatu 21.

The right to attend the Annual General Meeting is held by a stockholder entered in the register of stockholders kept by the Finnish Central Securities Depository on March 17, 2000 at the latest. A shareholder wishing to attend the Annual General Meeting should notify the company by 4.00 p.m. on Tuesday, March 21, 2000.

### DIVIDEND

The Board of Directors will propose to the Annual General Meeting that a dividend of 0.96 euro (FIM 5.70) be paid on a common share and 1.00 euro (FIM 5.95) on a preferred share. The dividend record date is March 28, and the proposed dividend payment date is Tuesday, April 4, 2000.

#### FINANCIAL REPORTING

Tamfelt will issue two interim reports in 2000: on Wednesday June 7, and Thursday October 5. The publications will be available in Finnish, Swedish and English.

The financial reports are available from: Tamfelt Corp. P.O. Box 427 33101 TAMPERE, Finland Fax: +358 3 356 0120 E-mail: tamfelt@tamf,elt.fi

Please notify the book-entry securities register of any change of address; the company will be notified accordingly.



Tamfelt is one of the pioneers of Finnish industry. The company was founded over 200 years ago in 1797. Listed on the Helsinki Stock Exchange since 1942, Tamfelt is the third oldest listed company in the country following Fiskars and Hackman.

Tamfelt Group has six strategically located plants: the Tampere and Juankoski plants in Finland, and a plant in each of the United States, Portugal, Brazil and China. The Group employes a total of 1,300 people and the consolidated net sales in 1999 were 653 million markka. The company's main products are forming fabrics, press felts and dryer fabrics (PMC products) for the pulp and paper industry as well as filter fabrics. The mining and chemical industries are also important customer segments. Tamfelt's quality system is certified according to the SFS-EN ISO 9001 quality standard and the environmental management system according to the SFS-EN ISO 14001 standard.



		1999	1998	Change %
Net sales	FIM mill. € mill.	653 110	615 103	6
Income before taxes	FIM mill. € mill.	128 22	124 21	3
Gross investments	FIM mill. € mill.	56 9	104 17	- 46
Earnings/share	FIM €	10.20 1.72	10.05 1.69	1
Equity/share	FIM €	70 12	64 11	9
Dividend/share				
common	FIM €	5.70 0.96	4.95 0.83	
preferred	FIM €	5.95 1.00	5.15 0.87	
Return on net assets, %		20	21	
Equity/Assets ratio, %		79	78	
Personnel, Dec. 31		1291	1304	- 1

### **GROUP GOVERNANCE**



Board of Directors: Axel Cedercreutz (left), Vesa Kainu, Jouko Oksanen, Mikael von Frenckell and Martin Lilius.

### BOARD OF DIRECTORS

Mikael von Frenckell, Chairman, born 1947. Term expiring 2001. Holds 67,000 shares in Tamfelt Corp. Member since 1979, Chairman since 1995.

Axel Cedercreutz, Vice Chairman, born 1939. Term expiring 2001. Holds 176,727 shares in Tamfelt Corp. Member since 1995.

Martin Lilius, born 1947. Term expiring 2000. Holds 1,404 shares in Tamfelt Corp. Member since 1986.

Vesa Kainu, born 1947. Term expiring 2001. Holds 500 shares in Tamfelt Corp. Member since 1995.

Jouko Oksanen, born 1951. Term expiring 2000. Holds no shares in Tamfelt Corp. Member since 1995.

### DUTIES OF THE BOARD OF DIRECTORS

The Board decides on matters of farreaching consequence to the Group's activities or matters of principal importance. Such matters include Group strategy, action plan, budgets, powers, and major investments.

The Board nominates the President, Deputy President and other executives and determines their remuneration.

# ELECTION AND TERM OF THE BOARD MEMBERS

The Board members are elected at the Annual General Meeting. The Board consists of five to nine ordinary members and a maximum of three deputy members. The Board members elect a Chairman and a Deputy Chairman among themselves. The Annual General Meeting shall be held each year by the end of May.

The term of office of the Board members terminates at the end of the second Annual General Meeting following their election. A person seventy years of age or over is not eligible as a Board member.

### BOARD MEETINGS

The Board of Directors met eight times in 1999.

#### **AUDITORS**

Jari Paloniemi

Eero Suomela

#### Veikko Terho

Authorized Public Accountants KPMG Wideri Oy Ab

### REVIEW BY THE PRESIDENT

The year 1999 will remain in Tamfelt's history as one of rapid market changes. While the first half was characterized by a next to stagnating market, the latter half was marked by continuously growing demand. A slowdown in the pulp and paper and the mining industries, increasing demand and an economic turnaround - all occurring simultaneously - made it an exciting and unpredictable year. Nevertheless, we succeeded excellently in responding to the fluctuating market situations. Our net sales reached an all-time high, 653 million markka, representing a 6.1 % increase. Our net income of 92.7 million markka was the second best in the 202 years of our company's existence; only slightly lower than the record figure of 1997.

The fastest growing markets were in Western Europe and Southeast Asia. Their favorable economic development boosted demand. The best performing products were press felts made in the Tampere plant and Fanafel's dry filtration products. Welltargeted R&D and capacity increase enabled this trend to happen. Investments in the sales network to improve technical service and expand the net of representatives contributed to a higher volume of orders.

Tamfelt now sees Southeast Asia as a major growth potential. We believe that the paper and board machines already operating in the region provide a strong customer base. As the economies grow, new pulp and paper mill projects will certainly be launched. Seeing China as a strong player in this trend, we decided to strengthen our market presence by establishing a joint venture with a local partner. Our long-term cooperation with Tianjin Paper Net Factory provided a safe base for a first step. If our tentative arrangement for the seaming and finishing of forming and dryer fabrics proves viable, we will take

a prompt decision about an expansion.

In 1999 paper machine clothing operations were the subject of a consolidation process more sweeping than the developments of the two preceding decades put together. Major suppliers have grown through acquisitions, and many of the smaller companies have merged into bigger ones to be able to continue serving the growing forestry corporations. Thus the ongoing forest industry consolidation has led the paper machine clothing business into all the heavier concentration.

How can a company based mainly on organic growth succeed in this kind of environment? Well, I believe. We don't have the depreciation on goodwill for expensive acquisitions or the cost of rundown of overlapping capacities. Our production facilities are in good condition. We have a competent personnel, and growth volume can be found through improved productivity and further investments. Our activities are backed by on a strong Finnish and Nordic forestry cluster, which provides the very best expertise in engineering as well as pulp and paper production. Thanks to the high prestige of the industry, the availability of competent personnel is secured and our objectives are attainable. Our faith in the future is strong and well founded.

Our company's total investments in 1999 were 55.8 million markka markedly less than in the record year 1998. The difference is due to the periodization of large-scale projects rather than a slowdown or decline of progress. In the first half of the year we started up a pre-needling line, which allows us to supply high-quality press felts even for the widest paper machines worldwide. During the current year we are investing to upgrade the production of dryer fabrics. Seam restructuring calls for new machinery with a higher grade of automation. Requirements for increasingly high



Risto Hautamäki, President.

quality and stability of technical textiles are setting new standards for the accuracy and length of the heat setting process. Therefore, we are investing in a heat setting machine featuring state-of-the art technology. Investments will continue in the improvement of press felt quality and increasing production.

Our outlook for the new millennium is favorable. The economic development of our key market area in Western Europe continues to improve. The Group's order-book is larger than a year ago. I am confident that the demand for our products will remain good through the year. As we have now begun work in the new millennium, I would like to thank our customers, suppliers and partners for their cooperation and confidence and for the superior results. I also thank Tamfelt's stockholders and directors for their confidence in the company. Last year's good performance motivates us to continue our efforts for our company's development with renewed energy. At the same time I extend my thanks to our personnel for their committed and innovative work for our customers' benefit amidst all the changes and challenges.

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### Executive Board

Risto Hautamäki, President and CEO Jyrki Nuutila, Senior Vice President, Deputy President Hannu Laine, Executive Vice President, Corporate Planning Seppo Holkko, Executive Vice President, PMC, from January 1, 2000 Esko Pessi, Executive Vice President, Filter Fabrics Kristian Lundström, Marketing Director, from January 1, 2000 Jukka Huhtiniemi, Technical Director, from January 1, 2000 Kaarina Tasanen \* Jarmo Järviö \* Jaakko Räsänen \*

\* Personnel representatives

Executive Board: Jukka Huhtiniemi (left), Jyrki Nuutila, Jarmo Järviö, Esko Pessi, Kaarina Tasanen, Jaakko Räsänen, Risto Hautamäki, Kristian Lundström, Seppo Holkko and Hannu Laine.

A joint venture agreement was signed between Tamfelt and Tianjin Paper Net Factory in China on October 13, 1999.



### ANNUAL REPORT BY THE BOARD OF DIRECTORS

### GENERAL

Tamfelt Group's main products include forming fabrics, press felts, belts, dryer fabrics and filter fabrics for the paper, board and pulp industries. Filter fabrics are also delivered to the mining and chemical industries as well as waste water treatment plants. Tamfelt is also the leading European supplier of ironer felts for laundries.

The pulp and paper industry is Tamfelt's most important customer segment. Its production volumes took an upswing in Tamfelt's key markets in late 1999. Domestic production grew, nearly 2 % at the year level and a full 15 % in the final quarter. Output was curtailed in the early months of the year, mostly on board and LWC machines. Overall, the European paper industry increased production. In the United States, paper and board grew at the rate of about 2 %. In the Far East, economic recovery and exports increased the volumes of paper production.

In the market for technical textiles, the competitive situation has changed and price competition is getting stiffer. The average prices have fallen, and Tamfelt's delivery volumes grew in excess of net sales growth. The customer base consists of consolidating company units and corporate agreements with big companies are commonplace. Price levels are becoming increasingly harmonious in different markets. Tamfelt, however, enjoys an established status as part of the Finnish forest cluster and as a supplier to new, sophisticated paper and board machines. This status is key strength helping the company to increase market shares, secure full capacity utilization and improve productivity. The Group's order volumes and capacity utilization were good throughout 1999, improving

even further towards the end of the year.

The field has been affected by a structural change, which is reflected in the competitive situation. In part, the change is due to a concentrating customer base. Restructuring has clarified the market situation and opened up new opportunities for Tamfelt to increase market shares.

While paper, board and pulp industries have grown, the consumption of technical textiles remains unchanged. The volume of Tamfelt's deliveries to the pulp and paper industry increased 8 % at the year level. Tamfelt's market shares have grown in Europe, North America and the Far East.

The number of new paper and board machine start-ups was unusually low. Instead, Tamfelt contributed as a major supplier for a number of paper machine rebuilds in Finland and abroad.

PMC is a major supplier in the European market to paper machines over 5 meters wide and a market leader in forming fabrics engineered for SC paper machines and gap formers. The company has increasingly focused on paper and board machines with the biggest capacities and highest speeds. In this segment, Tamfelt's sales are growing. In Western Europe Tamfelt holds market shares up to 25-30 %, depending on the style of clothing and paper grade.

The Filter Fabrics Division is a worldclass supplier to the iron pelleting and color metallurgy plants and pulp mills. Municipal and industrial waste water treatment is a growing market segment. Pulp and metal prices rose and production volumes increased during the year, lifting the volume of incoming orders to a record level.

A Brazilian subsidiary was launched in early 1999 to supply the mining industry with wet filtration fabrics. The company started successfully with the sales and performance meeting the budgeted targets.

An agreement was signed in October of a joint venture to be set up in China together with Tianjin Paper Net Factory. Tamfelt will hold a 60 % share of the capital stock of around 10 million markka. The company will make and sell wet filtration and dryer fabrics in China and Southeast Asia. At the initial stage the production will consist of seaming and finishing. The fabrics will be supplied from Finland. The new company's start-up is scheduled for summer 2000.

### SALES AND EARNINGS

Consolidated net sales were FIM 653 million, up 6.1 % from FIM 615 million in 1998. The sales volumes of paper machine clothing were good and met the expectations. Despite lower price levels the Division succeeded in increasing net sales by 4 %. The net sales of filter fabrics took an upswing despite the Asian and Russian markets having yet to recover from a recession. Subsidiary net sales continued to grow at a brisk rate.

The higher production capacity was capitalized on in higher exports. The strength of key export currencies boosted profitability. The productivity trend developed favorably. Earnings in markka were the second highest in the company's 202-year history. Tamfelt Group's net income was FIM 118.7 million, up from 113.2 million, representing 18.2 % of 1999 net sales, compared to 18.4 % in 1998. Net income before taxes amounted to FIM 127.9 million vs. 124.1 million a year before. Return on net assets was 19.7 % compared to 21.2, and equity assets ratio 79.0 % compared to 78.3 in 1998. Earnings per share were FIM 10.20, up from 10.05. Investment expenditure was FIM 55.8 million, compared to 103.6 in 1998. Tamfelt Properties disposed of a housing company, which brought a FIM 5.0 million capital gain, entered in the consolidated other operating income to improve Group operating income. The company plans to realize the one remaining housing company in the current year.

The balance sheet total grew FIM 62 million to FIM 792 million at yearend. The single most growing items were fixed assets, accounts receivable and liquid assets. In liabilities, stock-holders' equity grew most.

Growing exports and the fact that delivery terms are becoming an

increasingly important competitive weapon combined to augment the working capital and the balance sheet total. Nevertheless, Group liquity remained good throughout the year. On the balance-sheet date, interestbearing loans amounted to FIM 11.2 million, compared to 7.0 million in 1998, and the book value of liquid assets was FIM 144 million vs. 134 million in 1998. The liabilities include a long-term zero-interest loan of FIM 8.9 million from the European Union for the investment program of the Portuguese subsidiary.

The Group's net financial income totaled FIM 7.0 million compared to 11.0 million in the previous year. The company invests mainly in interestbearing instruments. The capital gain and dividends from shares quoted on the Helsinki Stock Exchange contributed to the financial income considerably less than a year before.

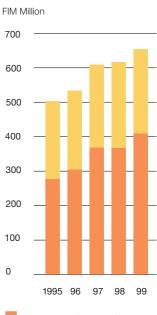
The parent company's net sales were FIM 551 million, up 4.5 % from FIM 527 million in 1998. Net income was FIM 92.4 million compared to 93.2 million, and net income before extraordinary items was FIM 99.4 million compared to FIM 94.8 million in 1998.

### STOCK EXCHANGE

Average all-share index prices on the Helsinki Stock Exchange rose 162 %. At the same time the HEX portfolio index rose 66 %. Tamfelt's common share was up 10 % from 20.86 euro to 23.00 euro, and preferred share 7 % from 21.02 euro to 22.50 euro. During the year 4,933 shares were converted from common to preferred shares.

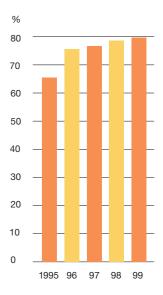
The Annual General Meeting approved the conversion of capital stock into euros, the renunciation of

#### NET SALES, CONSOLIDATED

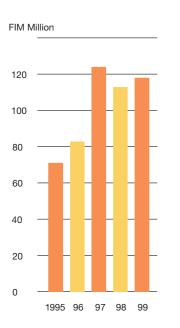


Exports and foreign subsidiaries

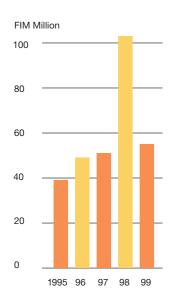
EQUITY/ASSETS RATIO, CONSOLIDATED



**O**PERATING INCOME, CONSOLIDATED



#### NET INVESTMENTS, CONSOLIDATED



par value, and the amendments of the Articles of Association as necessitated by the adoption of euro. Euro will also be the monetary unit applied to the options granted in 1998. The subscription price on December 31, 1999 was 25.45 euro.

In spring 1998 the company's Board formulated a dividend policy aiming to distribute at least 40 % of earnings as dividends, providing it will not jeopardize the company's financial position or progress.

### INVESTMENTS

The Group's gross investment outlay, FIM 55.8 million, was much in excess of the planned depreciation of FIM 40 million. The corresponding expenditure in 1998 was 103.6 million. In Juankoski, the extension of the seaming department was completed and the air conditioning system of the entire manufacturing plant went into service. Tampere invested in continued differentiation between press felt and dryer fabrics as separate product lines. In press felts, the largest investment program was a new pre-needling line, mainly to improve the quality consistency and repeatability of wide felts. In dryer fabrics, the biggest investments were in the development and extension of the seaming department. The building of a new heat setting unit was started for the treatment of dryer fabrics and press felts. The unit will be commissioned for production in late 2000. Investments continued in a wide-loom weaving department for filter fabrics. Wide looms will allow an increase in the volumes of shrink fabrics and filter belts for waste water treatment.

Investments by Fanafel Lda in Portugal in a new carding and needling line were completed in late 1999. The line will almost double the capacity of dry filtration products and ironer felts.

### RESEARCH AND DEVELOPMENT

An essential part of Tamfelt's research and development is done together with customers, material suppliers and paper machine manufacturers. The joint projects focus on the enhancement of paper quality, product runnability and the engineering of paper machine clothing structures and raw materials.

Tamfelt's Triathlon forming fabrics have established themselves, notably in positions where paper profiles, wire marking or loading have presented problems. A brand new three-layer application, Gapstar, has advanced into the production scale and its trial run performance has fulfilled the expectations.

The equipment and services of Juankoski paper laboratory have been diversified to support R&D programs. It is now possible to analyse paper qualities effectively by means of image processing. A running simulator helps model the functioning of fabrics, and computers can be used to simulate the dewatering performance of various structures for the development of new product innovations.

The quality consistency and repeatability of the new-generation Ecostar laminated felts have improved further since the commissioning of new machinery. New styles have been added to the range and sales have grown strongly. Investments have continued in the R&D of seamed press felts, and new-generation felts are currently being test run. Seamed press felts account for over 30 % of the US production, and the European share is growing.

The properties of shoe press belts have been improved by new materials and

rigid control of process conditions. The experience obtained from the belt technology has been used for the development of a Transfer belt to new types of closed press sections employed in high-speed printing paper machinery. The first machines operating on Transfer belts have only just started, but this market segment will grow rapidly.

The runnability and energy economy of dryer fabrics are increasingly important as machine speeds grow along with new concepts of paper and board machines. Tamfelt's Tamstar range has been engineered for these challenging conditions and represents the state of the art.

R&D on filter fabrics was strengthened and cooperation with customers, research institutes and universities was intensified. Tamfelt's product range for automatic pressure filters is a world leader, in quality as well as quantity.

The cost of R&D was about 5 % of the Group's net sales.

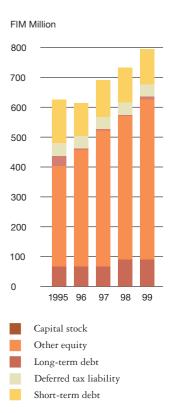
### HUMAN RESOURCES

Tamfelt Group employment averaged 1288 people, of which an average of 1005 were in the parent company. In 1998, Tamfelt averaged 1291 employees and parent company 1013. On the last day of the year, 1291 and 1304 people were on the Group's payroll in 1999 and 1998, respectively. The parent company's employment was 1002 and 1024, respectively. Investment in the development of working methods and new machinery, mostly in seaming and weaving, permitted a reduction of 22 employees in the parent company. During the year, the parent company offered training jobs to 111 students (140 in 1998) and provided 43 comprehensive school and high school students (75 in 1998) an opportunity for orientation to working life.

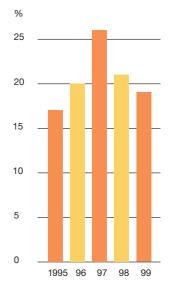
The labor turnover at the Group level was 7.6 % and in the parent company 6.6 %. The corresponding percentages for 1998 were 6.4 and 5.2. The average length of employment was 13 years and at the end of the year the average employee age was 41 for the Group, as it was in the previous year. Personnel welfare in the parent company was monitored in an employee opinion survey and by absenteeism through sickness. The latter percentage was reduced from 5.5 to 5.1.

During the year, the parent company personnel conducted a debate on values. As a result, Tamfeltian values and common rules were written down. The values arrived at were a happy customer, good profitability, openness and fairness, competence and working ability, and sustainable development.

FINANCING, CONSOLIDATED



RETURN ON NET ASSETS, CONSOLIDATED



### ENVIRONMENT

Tamfelt's environmental management system under the SFS-EN ISO 14001 standard covering the Tampere and Juankoski facilities was certified on March 2, 1998.

The goals and targets to support sustainable development have been published in Tamfelt's environmental policy. Tamfelt's production process does not generate polluting discharges to air or water. The key objectives of Tamfelt's environmental management program are the reduction of raw material and the amount of slowdecaying landfill waste and the avoidance of unnecessary consumption of water and energy.

The environmental management program helped to reduce the amount of landfill waste further. More effective reuse of paper, board, packing plastic, metal and raw material waste improved the rate of recycling in compliance with the objectives of the environmental management program. At the Tampere plant, special efforts were devoted to the recycling and saving of water.

### DIVISIONS

### PMC EUROPE

PMC Europe manufactures forming fabrics, press felts, dryer fabrics and shoe press belts for the paper, board and chemical pulp industries. Highquality technical and laboratory services support Tamfelt's paper machine clothing products.

Mergers of customer companies and rearrangements in the ownership of competitor firms have crucially affected the activities and results of PMC Europe. Seeking the benefits of higher purchasing volumes, customer companies are consolidating into increasingly large groups. At the same time, the various group units are striving for uniform prices and delivery terms for PMC products. Falling medium prices, on the other hand, have prompted clothing manufacturers to rearranging ownerships or to new acquisitions. Despite new patterns in competitor and customer operations, PMC Europe has developed well. Net sales increased at a satisfactory rate and the volume grew 8 %.

The result was achieved in a vigorous competitive situation by ensuring that the division's activities and products meet customer expectations. Investments in high-quality production, growing volumes and better profitability have helped to eliminate the effects of a falling price trend.

The differentiation between press felt and dryer fabrics into independent product lines and organizations was completed during the year. Process descriptions and operational target models were prepared to enable shorter process times and more effective production.

### TAMFELT-GMCC (TIANJIN) PAPER MACHINE CLOTHING CO, LTD.

In October 1999 Tamfelt founded a joint venture in China to safeguard its long-term position in Asia, the market with the highest rate of growth. The plant will be commissioned in summer 2000, initially for the seaming and finishing of forming and dryer fabrics. The aim is to expand the operations in a few years' time, when the company has established a market position. The targeted segment includes modern paper and board machines in China and Southeast Asia.

The local partner, Tianjin Paper Net Factory, is the leading manufacturer of paper machine clothing in China and has been carrying out technical cooperation with Tamfelt since the mid-1980s.

### PMC NORTH AMERICA

TF Group, Inc. manufactures and supplies fabrics for the North American paper and board industries. Excellence in papermaking and cooperation with the parent company are strengths upon which TF Group's activities are being developed.

Tamfelt's market share grew for the third successive year. The biggest increase was in sales to large corporations. Tamfelt is now the main supplier of forming fabrics and press felts to a world-leading SC paper machine in Canada. The company's order volumes increased by more than 30 % over the year, the largest growth being in orders for press felts. The volume of forming fabrics was also up. The division's performance, however, was not up to the targets. The biggest investment was in a loom modernization to increase the weaving capacity of the most complex seamed felts. 30 % of Tamfelt Inc.'s press felt deliveries consist of seamed felts.

### FANAFEL LDA

Fanafel in Ovar, Portugal is one of the leading manufacturers and suppliers of felts for commercial laundries worldwide. The company also makes clothing for press and dryer sections for pulp and paper industries. The third major line produces dry filtration fabrics and other textiles used in environmental protection.

Fanafel's net sales and operating income increased. Over 70 % of the net sales come from exports. The main export areas are Spain, France and Germany.

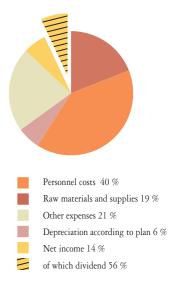
A new fiber treatment line and a needling machine were commissioned to supplement the pre-needling line installed in the previous year. This second investment phase was completed in October.

#### FILTER FABRICS

The division supplies wet filtration media used in special applications in the forest, mining and chemical industries. Fabrics for municipal and industrial waste water treatment are another line of production. Companies supplying filtration equipment for these purposes are yet another important customer segment.

The product prices of the filter fabrics processing industry improved on the low level of 1998. Prices for pulp and several color metals almost doubled as demand grew. All this resulted in growing consumption of filtration media.









The division's sales grew, notably in the South and North American markets. Sales were slightly down in the Asian and Russian markets, which have yet to recover from a recession. A good 80 % of the sales consisted of exports to over 40 countries.

The production capacity was high enough to meet the increasing demand, both in quantity and quality. Production efficiency gained as inventories were reduced. Delivery strength improved to over 90 %. The number of personnel remained at the level of the previous year. Two new wide looms were commissioned during the year. A new efficient laser cutter was acquired for the sewing department. The modern plant is fully equipped to manufacture increasingly elaborate and highquality fabrics.

The quality of products and operations improved. The rates of cloth waste and complaints were reduced as intended.

### Tamfelt Technologia em Filtração Ltda.

The new company, operating in Brazil from the beginning of 1999, supplies wet filtration products to the mining industry. It grew as expected, and a heavy growth is believed to continue through the next few years as demand increases for the customers' products.

### Year 2000

Tamfelt completed a large-scale project, led by outside experts, to locate and ward off any Y2K problems that might occur. The new millennium dawned with no operational problems at any level of Tamfelt's information systems.

### Outlook

The market outlook for the pulp and paper industries improved towards the end of the year and capacity utilization is expected to remain good throughout 2000. New papermaking capacity is under construction in Western Europe and Southeast Asia to serve Tamfelt's key market segment, and the consumption of paper machine clothing is believed to remain at a high level. While there are no signs of any calming down in the price competition, good profitability can be maintained by enhancing productivity, increasing costefficiency and growing the volumes.

The revival of the mining industry and the rise of color metal prices provide a good base for filter fabrics business in the current year.

If the current trend picture prevails for the pulp and paper and the mining industry and no unexpected changes occur in the global economy, Tamfelt's net sales are expected to grow and the net income should slightly exceed last year's performance.

## CONSOLIDATED STATEMENT OF INCOME JAN.1- DEC. 31.

	1999 FIM 1 000	% 1998 FIM 1 000	%	1999 € 1 000	1998 € 1 000
NET SALES	652 850	100 615 260	100	109 801	103 479
Change in finished goods inventory					
and work in progress +/-	6 514	10 806		1 096	1 817
Other operating income	11 108	6 171		1 868	1 038
Materials and services	127 839	117 874		21 501	19 825
Personnel expenses	262 146	248 579		44 090	41 808
Depreciation and write downs	40 048	38 338		6736	6 448
Other operating expenses	121 700	114 294		20 468	19 223
	-551 733	-519 085		-92 795	-87 304
OPERATING INCOME	118 739	18 113 152	18	19 970	19 031
Financial income and expenses	7 022	10 978		1 181	1 846
INCOME BEFORE EXTRAORDINARY					
ITEMS	125 761	19 124 130	20	21 151	20 877
Extraordinary items	2 1 3 6			359	
INCOME BEFORE TAXES	127 897	20 124 130	20	21 511	20 877
INCOME DEFORE TAXES	12/09/	20 124130	20	21 )11	20 077
Direct taxes	-35 164	-34 882		-5 914	-5 867
Minority interest	-65	-51		-11	-9
NET INCOME FOR THE YEAR	92 668	14 89 197	14	15 586	15 002

### CONSOLIDATED BALANCE SHEET DEC. 31

	1999 FIM 1 000	%	1998 FIM 1 000	%	1999 € 1 000	1998 € 1 000
ASSETS						
FIXED AND OTHER LONG-TERM ASSETS						
Intangible assets	7 528		6 070		1 266	1 021
Tangible assets	296 675		283 580		49 897	47 695
Long-term investments	$\frac{1\ 404}{305\ 607}$	39	<u>1 404</u> 291 054	40	<u>236</u> 51 399	<u>236</u> 48 952
INVENTORIES AND CURRENT ASSETS						
Inventories	199 638		191 392		33 577	32 190
Long-term receivables	3 092		3 760		520	632
Short-term receivables	139 456		109 608		23 455	18 435
Short-term investments	80 654		70 648		13 565	11 882
Cash and bank	63 668		<u>63 670</u>		10 708	10 709
	486 508	61	439 078	60	81 825	73 848
	792 115	100	730 132	100	133 224	122 799
STOCKHOLDERS' EQUITY AND LIAE	BILITIES					
STOCKHOLDERS' EQUITY						
Capital stock	88 600		88 600		14 901	14 901
Contingency reserve	13 178		13 178		2 216	2 216
Retained earnings	428 976		378 462		72 149	63 653
Net income for the year	92 668		89 197		15 586	15 002
	623 422	79	569 437	78	104 852	95 772
Minority interest	493	0	428	0	83	72
LIABILITIES						
Imputed tax liability	38 863		40 559		6 5 3 6	6 822
Long-term liabilities	10 035		1 502		1 688	253
Short-term liabilities	119 302		118 206		20 065	19 881
	168 200	21	160 267	22	28 289	26 955
	792 115	100	730 132	100	133 224	122 799

### CONSOLIDATED STATEMENT OF CASH FLOWS

	1999 FIM 1 000	1998 FIM 1 000	1999 € 1 000	1998 € 1 000
CASH FLOW FROM OPERATING ACTIVITIES				
Cash from sales	623 476	608 918	104 861	102 413
Cash from other operating income	12 692	5 939	2 1 3 5	999
Operating expenses	-506 732	-488 127	-85 226	-82 097
Cash before financing activities				
and taxes	129 436	126 730	21 770	21 314
Financing activities	6 889	11 925	1 159	2 006
Taxes	-32 846	-41 355	-5 524	-6 955
Net cash from operating activities	103 479	97 300	17 404	16 365
CASH FLOW FROM INVESTING AC	CTIVITIES			
Investment in tangible and				
intangible assets	-53 026	-103 389	-8 918	-17 389
Investment in other assets		115		19
Net cash used in investing activities	-53 026	-103 274	-8 918	-17 369
CASH FLOW FROM FINANCING A	CTIVITIES			
Repayment of long-term receivables	338	246	57	41
Withdrawal of long-term debt	8 910		1 499	
Repayment of on long-term loans	-450	-504	-76	-85
Withdrawal of short-term debt		4 562		767
Repayment of short-term loans	-4 294		-722	
Dividends paid	-44 953	-42 008	-7 561	-7 065
Net cash used in financing activities	-40 449	-37 704	-6 803	-6 341
Net increase (+)/decrease (-) in cash	10 004	-43 678	1 683	
Cash at beginning of year	134 318	177 996	22 591	29 937
Cash at end of year	144 322	134 318	24 273	22 591

### PARENT COMPANY STATEMENT OF INCOME JAN. 1 - DEC 31.

	1999 FIM 1 000	%	1998 FIM 1 000	%	1999 € 1 000	1998 € 1 000
NET SALES	550 888	100	527 000	100	92 653	88 635
Increase (+) or decrease (-) in finished						
goods inventories	3 1 3 4		10 309		527	1 734
Other operating income	4 761		5 004		801	842
Materials and services	97 803		94 446		16 449	15 885
Personnel expenses	222 028		207 757		37 342	34 942
Depreciation and write downs	31 931		30 192		5 370	5 078
Other expenses	114 656		116 683		19 284	19 625
	-466 418		-449 078		-78 446	-75 530
OPERATING INCOME	92 365	17	93 234	18	15 535	15 681
Financial income and expenses	7 052		1 565		1 186	263
INCOME BEFORE EXTRAORDINARY						
ITEMS	99 417	18	94 800	18	16 721	15 944
Extraordinary items			16 650			2 800
INCOME DEFORE ADDRODDIATIONS						
INCOME BEFORE APPROPRIATIONS AND TAXES	99 417	18	111 450	21	16 721	18 744
AND TAXES	99 41 /	10	111 400	21	10/21	10 / 44
Appropriations	1 828		-810		307	-136
Direct taxes	-25 881		-30 384		-4 353	-5 110
	29 001		50 50 1		1 373	9110
NET INCOME FOR THE YEAR	75 364	14	80 256	15	12 675	13 498

### PARENT COMPANY BALANCE SHEET DEC. 31

	1999 FIM 1 000	%	1998 FIM 1 000	%	1999 € 1 000	1998 € 1 000
ASSETS						
FIXED AND OTHER LONG-TERM	ASSETS					
Intangible assets Tangible assets Long-term investments	7 428 226 215 <u>260 433</u> 494 076	61	5 845 217 189 256 034 479 068	61	1 249 38 047 <u>43 802</u> 83 098	983 36 529 <u>43 062</u> 80 573
INVENTORIES AND CURRENT A	SSETS					
Inventories Long-term receivables Short-term receivables Short-term investments Cash and bank	154 659 3 092 118 777 33 845 <u>5 191</u> 315 564	39	157 349 3 760 87 548 20 065 <u>36 323</u> 305 045	39	26 012 520 19 977 5 692 <u>873</u> 53 074	26 464 632 14 725 3 375 <u>6 109</u> 51 305
	809 640	100	784 113	100	136 172	131 878
STOCKHOLDERS' EQUITY AND L STOCKHOLDERS' EQUITY	IABILITIES					
Capital stock Contingency reserve Retained earnings Net income for the year	88 600 13 178 363 807 75 364 540 949	67	88 600 13 178 328 504 80 256 510 538	65	14 901 2 216 61 188 12 675 90 981	14 901 2 216 55 250 <u>13 498</u> 85 866
APPROPRIATIONS	136 426	17	138 254	18	22 945	23 253
LIABILITIES						
Long-term liabilities Short-term liabilities	1 125 <u>131 140</u> 132 265	16	1 500 <u>133 821</u> 135 321	17	189 <u>22 056</u> 22 245	252 22 507 22 759
	809 640	100	784 113	100	136 172	131 878

### PARENT COMPANY STATEMENT OF CASH FLOWS

	1999	1998	1999	1998
	FIM 1 000	FIM 1 000	€ 1 000	€ 1 000
CASH FLOW FROM OPERATING ACT				
Cash from sales	520 400	517 377	87 525	87 017
Cash from other operating income	4 687	4 963	788	835
Operating expenses	-435 163	-401 315	-73 189	-67 496
Cash before financing activities and taxes	89 924	121 025	15 124	20 355
-				
Financing activities	-284	5 039	-48	847
Taxes	-29 070	-39 085	-4 889	-6 574
Net cash from operating activities	60 570	86 979	10 187	14 629
CASH FLOW FROM INVESTING ACTI	IVITIES			
Tanan and in tana 111 and 1				
Investment in tangible and	42 614	01.10/	7 1 (7	15 220
intangible assets	42 014	91 194	7 167	15 338
Investment in other assets	-42 614	318		53
Net cash used in investing activities	-42 614	-91 512	-7 167	-15 391
CASH FLOW FROM FINANCING ACT	TIVITIES			
	IVIIILO			
Repayment of long-term receivables	3 007	-2 451	506	-412
Repayment of long-term loans	-362	-362	-61	-61
Withdrawal +/repayment of	5.0-	5.0-		
short-term loans	7 000	-7 000	1 177	-1 177
Group contributions received		16 650		2 800
Dividends paid and distribution of				
other profits	-44 953	-42 008	-7 561	-7 065
Net cash used in financing activities	-35 308	-35 171	-5 938	-5 915
Net increase (+)/decrease (-) in cash	-17 352	-39 704	-2 918	-6 678
Cash at beginning of year	56 388	96 092	9 484	16 162
Cash at end of year	39 036	56 388	6 565	9 484

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### SIGNIFICANT ACCOUNTING POLICIES

# CHANGES IN ACCOUNTING POLICIES

The accounts have been prepared in compliance with the Accounting Act of December 30, 1997/1336. The years of comparison have been changed accordingly. The most significant changes are found in the presentation of income statement and balance sheet and the related financial data. The financial statements are presented in Finnish markka. The income statement, balance sheet and statement of cash flows are also presented in euro, applying the official conversion rate of 5.94573. For the first time, the consolidated accounts include imputed taxes as referred to in the new Accounting Act. The effect of this change is presented in the extraordinary items of the income statement.

#### **PRINCIPLES OF CONSOLIDATION**

The consolidated accounts cover the parent company and those companies in which Tamfelt Corp., directly or indirectly, holds over 50 % of the voting stock. Associated undertakings have been consolidated according to their capital contribution.

The acquisition method has been adopted for consolidation.

A surplus of the purchase price of the shares in subsidiary company over their underlying net worth at the date of acquisition is shown in the consolidated accounts as goodwill, amortized over five years using the straight line method.

All inter-group transactions, pending margins, internal balances, and internal profits have been eliminated. The resulting tax claims and liabilities have been imputed. In the consolidated accounts, imputed tax claims have been presented as a deduction of imputed tax liability. Minority interests are deducted in the statement of income as an item of net income, and in the balance sheet as an item of stockholders' equity.

The income statements of the foreign Group companies have been translated into markka at the average exchange rate for the year. Their balance sheets have been translated at the average official rate of the balance sheet date. The resulting two-rate differences, together with the conversion adjustments resulting from the elimination of equity, and the exchange rate differences of equity-ranked inter-Group loans are dealt with as translation adjustment in the stockholders' equity.

Change in accelerated depreciation and voluntary reserve has been split between change in imputed tax liability and income for the year. Total accelerated depreciation and voluntary reserve have been divided between equity and the imputed tax liability included in liabilities.

#### NET SALES

For the computation of net sales, indirect taxes, discounts, and exchange rate differences have been deducted from the sales revenue.

#### FOREIGN CURRENCIES

The parent company receivables and liabilities are booked at the average official exchange rate of the balance sheet date. Current hedging instruments for foreign denominated items are entered at the value of the date, including the effect of interest.

# FIXED ASSETS AND DEPRECIATION

Fixed assets are stated in the balance sheet at acquisition cost less annual depreciation according to plan. Total accelerated depreciation is recorded in the parent company as a separate item in appropriations.

Planned depreciation is computed using the straight line method over the useful economic life of the asset. The most common periods are: Intangible rights 3 to 10 years Consolidated goodwill 5 years Other long-term expenditure 10 years **Buildings** 25 to 50 years Machinery and equipment 4 to 15 years Other tangible assets 10 years

#### INVENTORIES

Inventories are valued at lower of cost or market, at either the purchase price, or estimated net realizable value, whichever is lower. The purchase price is defined using the direct cost of acquisition or manufacture on the FiFo principle.

For foreign subsidiaries, inventories are valued in accordance with local practice and also include indirect costs of production.

#### **S**ECURITIES

Bonds are entered in assets at acquisition cost, allocating the difference between acquisition cost and nominal value as an increase or decrease of acquisition cost, according to maturity. In the final accounts, however, they are not valued higher than the market price. Shares and holdings are stated at the acquisition cost or market price, whichever is lower.

Nominal interest income from bonds is booked in interest income. The difference between acquisition cost and nominal value is allocated as an increase or decrease of interest income. If bonds are sold in advance of maturity date, a gain is entered in other financial income and a loss in other financial expenses.

#### RESEARCH AND DEVELOPMENT

The R&D expenditure is booked as expenses of the financial period during which they arose, with the exception of research equipment, which is depreciated according to plan over five years by the straight line method.

#### TAXES

Computed estimates of taxes are entered in the statement of income of the domestic Group companies. Foreign subsidiary taxes are presented in the consolidated statements as booked in their respective original accounts. Entries resulting from internal integration are made in compliance with Accounting Act Chapter 6 Section 11.

#### PENSION LIABILITY IN FINLAND

Liability for working employees is covered by pension insurance corporations. The parent company is responsible for voluntary, unregistered old age pensions. Corresponding figures are shown in the pledged assets included in Financial Data.

### FINANCIAL DATA

### STATEMENT OF INCOME (FIM 1 000)

### NET SALES

Tamfelt's line of business is technical textiles.

### NET SALES IN THE VARIOUS MARKET AREAS

Consolidated Parent company									
	1999	%	1998	%	% 1999 % 1998				
		, -		, -		, -		%	
Nordic countries	309 606	47	320 210	52	305 244	55	319 434	61	
Other Europe	199 607	31	176 286	29	149 808	27	133 130	25	
North America	74 791	11	69 583	11	32 470	6	27 956	5	
Far East	41 274	6	30 330	5	39 809	7	28 942	5	
Other countries	27 572	4	18 851	3	23 557	4	17 538	3	
Total	652 850	100	615 260	100	550 888	100	527 000	100	
OTHER OPERATING INCOME									
Gains on the disposal of fixed assets	5 1 2 6		232		74		41		
Rental income	1 969		2 924		1 368		1 553		
Other	4 013		3 015		3 319		3 410		
Total	11 108		6 171		4 761		5 004		
MATERIALS AND SERVICES									
Purchases during the year	118 968		121 100		86 339		93 154		
Change in inventories	3 081		-9 065		5 825		-4 694		
Outsourced and subcontracted									
services	5 790		5 839		5 639		5 986		
Total	127 839		117 874		97 803		94 446		
PERSONNEL EXPENSES									
Remunerations to directors and									
presidents	2 4 2 6		2 378		1 489		1 528		
Other remunerations	207 280		199 621		174 684		166 293		
Pension expenses	29 918		25 584		26 7 3 3		22 900		
Other social expenses	22 522		20 996		19 122		17 036		
Total	262 146		248 579		222 028		207 757		
EMPLOYMENT									
Average	1 288		1 291		1 005		1 013		
Year-end	1 291		1 304		1 002		1 024		

PLANNED DEPRECIATION	Cons	olidated	Parent company		
	1999	1998	1999	1998	
Interneible richts	1 157	1 584	1 157	1 584	
Intangible rights Consolidated goodwill	1 1)/	808	1 1 ) /	1 )84	
Other long-term expenditure	556	544	387	354	
Buildings	3 698	3 447	600	401	
Machinery, equipment and furniture	34 583	31 722	29 733	27 835	
Other tangible assets	54	142	54	18	
Total	40 048	38 247	31 931	30 192	
FINANCIAL INCOME AND EXPENSES					
Dividend income	418	493	110	215	
Interest income from long-term investments	1 776	1 855	1 776	1 855	
Other interest and financial income					
From Group companies			33	73	
From others	6 324	10 430	8 184	4 266	
Write down on investment					
Write down on financial instruments	-720	-527			
Interest expenses and other financial expenses					
To Group companies			-2 499	-1 361	
To others	-776	-1 273	-552	-3 483	
Total	7 022	10 978	7 052	1 565	
The item interest and financial income includes					
exchange rate gains (+)/losses (-)	-83	-528	6 7 4 6	-3 406	
exchange face gains (+)/100565 (-)	09	)20	0 / 10	9 100	
EXTRAORDINARY ITEMS					
Group subsidies				16 650	
Change in accounting policies	2 1 3 6				
DIRECT TAXES					
Tarras for the more	35 474	34 277	26 594	27 696	
Taxes for the year Taxes for previous years	-713	-30	-713	-1 974	
Taxes for extraordinary items	-/15	-50	-/15	4 662	
Change in imputed tax liability *	403	635		4 002	
Total	35 164	34 882	25 881	30 384	
	<i>JJIOI</i>	91002	29 001	50 501	
* Change in imputed tax liability					
Reperiodizing	-342				
Integration	871				
Appropriations	-126	635			

### BALANCE SHEET (FIM 1 000)

#### FIXED AND OTHER LONG-TERM ASSETS 1999

	Acquisition cost Jan. 1	Increase Jan. 1 through Dec. 31	Decrease Jan. 1 through Dec. 31	Translation differences	Acquisition cost Dec. 31	Accumulated depreciation according to plan Dec. 31	Book value Dec. 31
CONSOLIDATED						piùi beer yr	
Intangible assets							
Intangible rights	17 996	1 417			19 413	-15 599	3 814
Consolidated goodwill	5 699				5 699	-5 699	0
Other long-term expenditure	4 4 4 4	1 754			6 1 9 8	-2 484	3 714
Tangible assets							
Land and water	6 1 4 4	16	-233		5 927		5 927
Buildings	108 468	2 830	-1 931		109 367	-44 870	64 497
Machinery, equipment and							
furniture	577 958	56 596	-4 204	7 646	637 996	-422 632	215 364
Other tangible assets	1 147	421			1 568	-379	1 189
Advance payments and							
construction in progress	16 810	9 698	-16 907	97	9 698		9 698
Investments							
Shares and holdings	1 400				1 400		1 400
Shares and holdings in							
associated companies	4				4		4
Total	740 070	72 732	-23 275	7 743	797 270	-491 663	305 607
Machinery and equipment							187 161
PARENT COMPANY							
Intangible assets	/ -				(		(
Intangible rights	22 063	1 417			23 480	-19 666	3 814
Other long-term expenditure	3 578	1 711			5 289	-1 675	3 614
<u>Tangible assets</u>	1 - 1 4				1 - 1 -		1 - 1 -
Land and water	4 546	16			4 562		4 562
Buildings	23 674	1 406			25 080	-1 479	23 601
Machinery, equipment and		<i>(</i>	4				
furniture	463 539	45 271	-40		508 770	-320 279	188 491
Other tangible assets	1 147	421			1 568	-379	1 189
Advance payments and							
construction in progress	16 035	8 372	-16 035		8 372		8 372
<u>Investments</u>							
Shares and holdings in Group					20/040		22/242
companies	204 019				204 019		204 019
Shares and holdings in	,				/		/
associated companies	4				4		4
Other shares and holdings	1 399				1 399		1 399
Other receivables from	50 (10		2 (72	7 072	EE 010		EE 010
Group companies	50 612	50 (1 /	-2 673	7 073	55 012	2/2/70	55 012
Total Mashingan and savis mont	790 616	58 614	-18 748	7 073	837 555	-343 478	494 076
Machinery and equipment							167 374

### FIXED AND OTHER LONG-TERM ASSETS 1998

	Acquisition cost Jan. 1	Increase Jan. 1 through Dec. 31	Decrease Jan. 1 through Dec. 31	Translation differences	Acquisition cost Dec. 31	Accumulated depreciation according to plan Dec. 31	Book value Dec. 31
CONSOLIDATED						plan beer yr	
Intangible assets							
Intangible rights	16 622	1 374			17 996	-14 442	3 554
Consolidated goodwill	5 699				5 699	-5 699	0
Other long-term expenditure	4 117	327			4 4 4 4	-1 928	2 516
Tangible assets							
Land and water	5 686	458			6 1 4 4		6 1 4 4
Buildings	95 059	13 409			108 468	-42 823	65 645
Machinery, equipment and							
furniture	508 913	76 999	-5 031	-2 923	577 958	-383 799	194 159
Other tangible assets	765	382			1 1 4 7	-325	822
Advance payments and							
construction in progress	6 178	15 245	-4 573	-40	16 810		16 810
Investments							
Shares and holdings	1 400				1 400		1 400
Shares and holdings in							
associated companies	4				4		4
Total	644 443	108 194	-9 604	-2 963	740 070	-449 016	291 054
Machinery and equipment							166 198
PARENT COMPANY							
<u>Intangible assets</u>							
Intangible rights	20 689	1 374			22 063	-18 509	3 554
Other long-term expenditure	3 455	123			3 578	-1 288	2 290
<u>Tangible assets</u>							
Land and water	4 294	252			4 546		4 546
Buildings	13 883	9 791			23 674	-879	22 795
Machinery, equipment and							
furniture	399 510	68 7 3 6	-4 707		463 539	-290 547	172 992
Other tangible assets	765	382			1 147	-325	822
Advance payments and							
construction in progress	5 500	14 480	-3 945		16 035		16 035
Investments							
Shares and holdings in							
Group companies	203 596	423			204 019		204 019
Shares and holdings in							
associated companies	4				4		4
Other shares and holdings	1 399				1 399		1 399
Other receivables from							
Group companies	50 7 3 2	2 673		-2 793	50 612		50 612
Total	703 827	98 234	-8 652	-2 793	790 616	-311 548	479 068
Machinery and equipment							150 023

	Consol	lidated	Parent company		
	1999	1998	1999	1998	
INVENTORIES					
Raw materials and consumables	31 196	33 930	23 142	28 967	
Work in progress	74 644	72 991	61 828	61 518	
Finished products	93 798	84 471	69 689	66 864	
Total	199 638	191 392	154 659	157 349	
LONG-TERM RECEIVABLES					
Loans receivable from associated companies	1 556	1 945	1 556	1 945	
Other loans receivable	1 536	1 815	1 536	1 815	
Loans receivable	3 092	3 760	3 092	3 760	
SHORT-TERM RECEIVABLES					
Accounts receivable	118 465	89 060	88 679	65 735	
Loans receivable from associated					
companies	389	389	389	389	
Other loans receivable	772	442	706	372	
Prepaid expenses and accrued income *	19 831	19 717	13 895	13 510	
Total	139 457	109 608	103 669	80 006	
Receivables from Group companies					
Accounts receivable			15 109	7 541	
* Material items of short-term prepaid					
expenses and accrued income					
Periodization of personnel expenses	4 932	4 887	4 813	4 622	
Periodization of interest income	6 293	5 660	5 326	3 715	
Other periodization	8 606	9 170	3 756	5 173	
Total	19 831	19 717	13 895	13 510	
SHORT-TERM INVESTMENTS					
Other shares	4 257	4 055	65	65	
Other securities	76 397	66 593	33 780	20 000	
Total	80 654	70 648	33 845	20 065	
Replacement price of short-term investment		72 103	34 058	20 399	
Book value of short-term investment	80 654	70 648	33 780	20 065	
Difference	3 524	1 455	278	334	

	Consolidated		Parent c	ompany
	1999	1998	1999	1998
STOCKHOLDERS' EQUITY				
Capital stock Jan. 1	88 600	66 450	88 600	66 450
Stock dividend		22 150		22 150
Capital stock Dec. 31	88 600	88 600	88 600	88 600
General reserve Jan. 1		15 522		15 522
Stock dividend		-15 522		-15 522
General reserve Dec. 31		0		0
Contingency reserve Jan. 1	13 178	19 806	13 178	19 806
Stock dividend		-6 628		-6 628
Contingency reserve Dec. 31	13 178	13 178	13 178	13 178
Retained earnings from				
previous years Jan. 1	467 659	421 208	408 760	370 512
Dividend	-44 953	-42 008	-44 953	-42 008
Change in translation adjustment	6 271	-737		
Retained earnings from				
previous years Dec. 31	428 977	378 463	363 807	328 504
Net income for the year	92 668	89 197	75 364	80 256
Total stockholders' equity	623 422	569 437	540 949	510 538
STATEMENT OF DISTRIBUTABLE EARNINGS DEC. 31 Contingency reserve Profit for previous years Net profit for the year Portion of accumulated depreciation	13 178 428 977 92 668	13 178 378 462 89 197	13 178 363 807 75 364	13 178 328 504 80 256
<ul> <li>Portion of accumulated depreciation and voluntary reserve entered in stockholders' equity Total</li> </ul>	433 314	376 544	452 349	421.029
1 0121	433 314	3/0 )44	472 349	421 938

### PARENT COMPANY CAPITAL STOCK AND CLASSES OF SHARES DEC. 31

	19	99	199	98
	Number of shares	FIM	Number of shares	FIM
Common stock (20 votes/share)	3 373 066	33 730 660	3 377 999	33 779 990
Preferred stock (1 vote/share)	5 486 934	54 869 340	5 482 001	54 820 010
Total	8 860 000	88 600 000	8 860 000	88 600 000

	Consolidated		Parent c	ompany
	1999	1998	1999	1998
IMPUTED TAX LIABILITY				
For appropriations	41 461	40 559		
Imputed tax claims deducted	11 101	10 777		
from imputed tax liabilities				
For periodizations and appropriations	-2 598			
Total	38 863	40 559		
LONG-TERM LIABILITIES				
Other long-term liabilities	10 035	1 502	1 125	1 500
Instalment plan				
for 2001-2004 (2000-2003)	10 035	1 500	1 1 2 5	1 500
SHORT-TERM LIABILITIES				
Loans from financial institutions	1 147	5 066	375	362
Advance received	2 222	2 291	2 222	2 286
Accounts payable	40 476	26 353	29 819	22 901
Other liabilities	17 294	12 425	14 024	13 743
Accrued liabilities and deferred income *	58 163	72 071	44 231	57 611
	119 302	118 206	90 671	96 903
Liabilities to Group companies				
Accounts payable			468	3 556
Other liabilities			40 000	33 000
Accrued liabilities and deferred income				362
			40 468	36 918
* Material items of short-term accrued				
liabilities and deferred income				
Periodization of personnel expenses	39 189	40 426	36 624	37 719
Other periodizations	18 974	31 645	7 607	20 254
	58 163	72 071	44 231	57 973
Liabilities with and without interest				
Long-term				
Without interest	38 863	40 559		
With interest	10 035	1 502	1 125	1 500
Total	48 898	42 061	1 125	1 500
Short-term				
With interest	118 155	117 758	90 765	100 459
Without interest	1 1 4 7	448	40 375	33 362
Total	119 302	118 206	131 140	133 821

	Consoli	idated	Parent co	mpany
CONTINGENT LIABILITIES	1999	1998	1999	1998
a) Own debt Mortgages in real estate Other liabilities Mortgages		2 797		
b) Other securities given Mortgages in real estate	500	500	500	500
c) Consolidated debt Guarantees				3 165
d) For others				
Guarantees	200	200	200	200
e) Other own liabilities				
Bill liabilities	32	105		
Leasing liabilities	5 388	5 050	1 263	1 733
Pension liabilities	1 101	1 101	1 101	1 101
Total	7 221	7 753	3 064	6 699

### SHARES AND HOLDINGS OWNED BY THE GROUP AND THE PARENT COMPANY

	Percentage of Group ownership	Percentage of parent company ownership
GROUP COMPANIES		
Fanafel Lda.	98,2	72
Tamfelt Inc.	100	100
Formtec Forming Fabrics Inc.	100	0
Tamfelt Canada Inc.	100	0
Formtec Forming Fabrics of Canada Inc.	100	0
Tamfelt (UK) Ltd.	100	100
Tamfelt Properties	100	100
Tamfelt Tecnologia em Filtração Ltda.	99,99	99,99
Tampereen Verkatehdas Oy	100	100
Kiinteistö Oy Juvanmänty	100	0
ASSOCIATED COMPANIES		
Alakoski Oy	39	39

### OTHER DATA

### RISK MANAGEMENT

The means of hedging against currency risks include cash flow matching, forward contracts, and options.

The parent company has no liabilities denominated in foreign currency. Subsidiary liabilities are in the currency of the particular country. Current risk positions result only from foreign exchange purchases and sales in operating activities and from inter-Group financial arrangements.

The current exchange rate risk involved in sales and purchases is mainly covered by forward contracts. In certain cases, even current foreign exchange positions arising from unfilled orders or pending offers are hedged against. The Group does not cover subsidiary equity or currency risks involved in equity-ranked loans.

In liquid fund investments, Tamfelt avoids risks. The company invests mainly in money market instruments. Limited amounts of liquid funds can be placed in shares. The Board of Directors has confirmed principles for the taking of investment risks and risks with partners.

# CONSOLIDATED FINANCIAL SUMMARY (€ 1000)

	1995	1996	1997	1998	1999
Net sales	84 420	89 436	102 143	103 479	109 801
Change %	11.1	5.9	14.2	1.3	6.1
Exports and foreign subsidiaries	46 493	50 979	61 554	61 435	68 487
% of sales	55.1	57.0	60.3	59.4	62.4
Operating income	11 967	14 056	20 796	19 031	19 970
% of sales	14.2	15.7	20.4	18.4	18.2
Net income before extraordinary iter	ms,				
taxes and minority interest	12 837	16 568	23 065	20 877	21 151
% of sales	15.2	18.5	22.6	20.2	19.3
Net income before taxes and					
minority interest	12 837	16 568	23 065	20 877	21 511
% of sales	15.2	18.5	22.6	20.2	19.6
Return on equity %	13.4	17.2	20.1	16.3	15.2
Return on net assets %	16.8	20.3	26.3	21.2	19.7
Equity/assets ratio %	65.2	75.4	76.6	78.3	79.0
Gross investment	6 5 4 9	8 921	10 100	17 428	9 389
% of sales	7.8	10.0	9.9	16.9	8.6
Average employment during					
the period	1 1 3 3	1 162	1 202	1 291	1 288

### RETURN ON EQUITY %

Net income before extraordinary items, taxes and minority interest - taxes	x	100
Equity + minority interest (average)	А	100
RETURN ON NET ASSETS %		
Net income before extraordinary items, taxes and minority		
interest + interest and other financial expenses		100
Balance sheet total - interest-free liabilities (average)	х	100
EQUITY/ASSETS RATIO %		
Equity + minority interest		100
Balance sheet total - advance received	х	100

### STOCK ANALYSIS

### CAPITAL STOCK AND CLASSES OF SHARES

The capital stock of Tamfelt Corp. consists of common stock and preferred stock. The accounting par value, which is not an exact value, is 1.68 euro for each class of share. Whenever the Annual General Meeting decides that a dividend be distributed, each preferred share shall collect a two percentage units higher dividend than a common share; however, when the dividend collected by a preferred share is rounded to whole cents, it shall always be rounded up to the nearest whole cent. Common shares carry twenty votes and preferred shares one vote. If requested by the holder, a common share can be converted into a preferred share on conditions specified in the Articles of Association.

The Annual General Meeting held on March 25, 1999 approved the conversion of the capital stock into euros, the renunciation of par value, and the amendments of the Articles of Association necessitated by the adoption of euro. It approved euro as the monetary unit to be applied to the options granted in 1998. These decisions were entered in the Trade Register on April 29, 1999.

4,933 Tamfelt common shares were converted into preferred shares. The corresponding entries were made in the Trade Register on September 30, 1999.

The company's capital stock is 14,901,450.28 euro. After the conversions made in 1999, the capital stock consists of 3,373,066 common shares and 5,486,934 preferred shares. The total number of shares is 8,860,000 and the total number of votes is 72,948,254.

The 1998 options give subscription rights for a maximum of 240,000 preferred shares. The options exercised can increase the company's capital stock by a maximum amount of 403,651.02 euro. The subscription begins on November 1, 2000 and ends on March 31, 2004. The options are covered by a stock-holding plan, whereby the holder agrees to invest 10 % of the derived gross benefit in the company's stock.

#### TRENDS AND TRADE VOLUMES

The HEX all-share index rose 162.0 % and the HEX portfolio index rose 66.2 % in 1999. Tamfelt common share rose 10.3 % and preferred share 7.0 %.

Trading in Tamfelt common shares on the Helsinki Stock Exchange amounted to 1.4 million euro (12.9) and preferred shares to 6.5 million euro (26.3). The numbers traded were 64,992 (454,212) common shares and 309,650 (906,418) preferred shares.

Turnover in common shares was 1.9 % (13.4) of the company's total common stock. Turnover in preferred shares was 5.6 % (16.5). The percentages have been calculated on the stock numbers at the end of 1999. The comparison figures for 1998 were pushed up by trading on June 30, 1998 at the start-up of Varma-Sampo Mutual Pension Insurance Company.

The highest quotation for a common share was 24.00 euro and the lowest 20.00 euro. The highest quotation for a preferred share was also 24.00 euro and the lowest 18.55 euro.

#### CAPITAL STOCK OWNERSHIP

At the end of 1999 (1998) the company had 1,786 (1,769) stockholders and two (three) ownership registrations in the name of a nominee. The number of shares registered in the name of a nominee was 24,570 (41,432). The number of shares yet to be transferred to the book-entry securities system is 6,993 (7,088), or 0.08 % (0.08). The company's Directors, President and Senior Vice President held a total of 175,089 (165,605) common and 76,937 (76,717) preferred shares corresponding to 2.8 % (2.7) of the capital stock and a 4.9 % (4.6) voting power. The number of options held by the President and the Senior Vice President was 42,600 (42,600), which entitle them to subscribe for a total of 56,800 preferred shares. The persons subject to the disclosure requirement held a total of 256,429 (245,508) shares corresponding to 2.9 % (2.8) of the capital stock and a 4.9 % (4.7) voting power, and 92,700 (92,700) options. The total number of options issued and subscribed for is 180,000. Options exercised can increase the company's capital stock by a maximum amount of 403,651.02 euro and the number of shares by a maximum of 240,000.

### GUIDELINES FOR INSIDERS

Tamfelt's Board of Directors decided on December 13, 1999 to issue a new set of instructions for insiders. The guidelines for insiders for a listed company prepared by Helsinki Stock Exchange, the Central Chamber of Commerce and the Confederation of Finnish Industry and Employers will be applied at Tamfelt as from March 1, 2000.

Category Ownerships		%	Shares	%	Votes	%	
100	Corporations	140	7.8	703 676	7.9	6 864 008	9.4
200*	Financial and insurance						
	institutions	28	1.6	1 977 032	22.3	12 443 923	17.1
300**	General government	16	0.9	1 436 905	16.3	9 631 073	13.2
400	Non-profit institutions	86	4.8	1 356 598	15.3	12 271 015	16.8
500	Households	1 498	83.9	3 297 222	37.2	30 893 126	42.3
600	Rest of the world	18	1.0	81 574	0.9	798 995	1.1
Total		1 786	100.0	8 853 007	99.9	72 902 140	99.9
Shares not transferred to book-entry system			m	6 993	0.1	46 114	0.1
Issued number			8 860 000	100.0	72 948 254	100.0	
Ownerships registered in the name of a nominee				24 570	0.3	129 773	0.2

# STOCK OWNERSHIP ON THE BASIS OF CLASSIFICATION OF INSTITUTIONAL SECTORS DEC. 31, 1999

\*) Including ownerships registered in the name of a nominee.

\*\*) Employment pension schemes (Pension insurance companies) fall under category 300 General government.

### STOCK OWNERSHIP BY SIZE DEC. 31, 1999:

Number of shares	Ownerships	%	Shares	%	Votes	%
1 - 500	) 981	54.9	191 164	2.2	1 032 674	1.4
501 - 5000	) 617	34.5	963 506	10.9	6 795 670	9.3
5 001 - 10 000	) 64	3.6	470 535	5.3	3 764 470	5.2
10 001 - 50 000	) 90	5.0	2 041 249	23.0	16 131 858	22.1
50 001 - 100 000	) 17	0.9	1 169 405	13.2	9 491 804	13.0
100 001 - 999 000	) 19	1.1	4 017 148	45.3	35 685 664	48.9
Total	1 788	100.0	8 853 007	99.9	72 902 140	99.9
Shares not transferred to be	ook-entry syste	m	6 933	0.1	46 114	0.1
Issued number			8 860 000	100.0	72 948 254	100.0

# LARGEST OWNERSHIP REGISTRATIONS BY VOTING POWER ON DEC. 31, 1999 (DEC. 31, 1998):

1	(1)	Varma-Sampo Mutual Pension Insurance Compan	9.1	%	(9.1)
2	(3)	Sampo Life Insurance Company Limited	5.3	%	(4.7)
3	(2)	Industrial Insurance Company Ltd	5.1	%	(5.1)
4	(4)	Metso Corporation	4.5	%	(4.5)
5	(5)	Waldemar von Frenckell Foundation	4.0	%	(4.0)
6	(6)	Cedercreutz, Axel	3.6	%	(3.3)
7	(7)	Samfundet Folkhälsan i Svenska Finland	2.5	%	(2.5)
8	(8)	Snäll, Clara	2.2	%	(1.9)
9	(9)	House of Nobility	1.8	%	(1.8)
10	(10)	Insurance Company of Finland Limited	1.8	%	(1.8)
		TOTAL	39.9	%	(38.7)

# LARGEST OWNERSHIP REGISTRATIONS BY NUMBER OF SHARES ON DEC. 31, 1999 (DEC. 31, 1998):

1	(1)	Varma-Sampo Mutual Pension Insurance Company	6.1	%	(6.1)
2	(2)	Industrial Insurance Company Ltd	5.0	%	(5.0)
3	(4)	Sampo Life Insurance Company Limited	3.5	%	(3.2)
4	(3)	The Local Government Pensions Institution	3.3	%	(3.3)
5	(5)	Metso Corporation	2.7	%	(2.7)
6	(6)	Waldemar von Frenckell Foundation	2.7	%	(2.7)
7	(7)	Suomi Mutual Life Assurance Company	2.6	%	(2.6)
8	(9)	Tapiola General Mutual Insurance Company	2.3	%	(2.2)
9	(8)	Samfundet Folkhälsan i Svenska Finland	2.3	%	(2.3)
10	(10)	Tapiola Mutual Pension Insurance Company	2.2	%	(2.1)
		TOTAL	32.7	%	(32.2)

Sampo Insurance Company plc disclosed on November 16, 1999 that the portion of votes in Tamfelt Corp. owned by Sampo Life Insurance Company Limited had exceeded 5 per cent.

### STOCK SUMMARY

	1995	1996	1997	1998	1999
Earnings/share, M€ <sup>2)</sup>	0.98	1.41	1.88	1.69	1.72
Equity/share Dec. 31, $\in 2^{2}$	7.74	8.75	9.92	10.76	11.84
DIVIDEND					
Dividend, M€ <sup>1)</sup>	3.68	6.39	7.07	7.56	8.73
Dividend/share, € <sup>1)</sup>					
common	0.54	0.94	1.04	0.83	0.96
preferred	0.57	0.98	1.08	0.87	1.00
Adjusted dividend/share, € <sup>2)</sup>					
common	0.40	0.71	0.78	0.83	0.96
preferred	0.43	0.73	0.81	0.87	1.00
Dividend/earnings % 1)	42.5	51.3	42.6	50.4	57.3
Effective dividend yield Dec. 31, % 1)					
common	4.3	4.5	3.1	4.0	4.2
preferred	5.1	4.8	3.3	4.1	4.4
P/E ratio Dec. 31					
common	9.5	11.1	13.3	12.3	13.4
preferred	8.5	10.8	13.0	12.4	13.1

	1995	1996	1997	1998	1999
TRENDS AND TRADING					
Unadjusted trading price at year-end					
common	12.4	21.0	33.1	20.9	23.0
preferred	11.2	20.4	32.5	21.0	22.5
Adjusted trading price at year-end <sup>2)</sup>		2011	52.5	2110	
common	9.3	15.8	24.8	20.9	23.0
preferred	8.4	15.3	24.3	21.0	22.5
Change of adjusted trading price, %	011	19.9	21.9	2110	
common	-1.3	68.9	57.6	-16.1	10.3
preferred	-8.9	82.0	59.5	-13.6	7.0
Highest trading price, € <sup>2)</sup>	0.7	0210	,,,,,	19.0	1.0
common	10.1	15.9	26.5	33.6	24.0
preferred	9.7	15.8	27.1	33.6	24.0
Lowest trading price, $\in 2^{2}$				22.1	
common	7.3	9.5	15.9	20.4	20.0
preferred	6.9	8.7	15.5	20.7	18.5
Trading volume, M€					
common	2.5	2.9	2.2	12.9	1.4
preferred	7.5	13.3	24.2	26.3	6.5
Trading volume (number of shares) <sup>3)</sup>					
	218 612	164 383	78 552	454 212	64 922
preferred	710 462	819 084	789 600	906 418	309 650
Trading volume/total stock %					
common	8.4	6.3	3.0	13.4	1.9
preferred	17.8	20.4	19.5	16.5	5.6
	FC				
CAPITAL STOCK AND NUMBER OF SHAR	.ES 11.1	11.2	11.2	140	140
Capital stock Dec. 31, M€	4.4	4.4	4.4	14.9	14.9
common				5.7	5.7
preferred Market and indication Day 21 MG	6.7	6.8	6.8	9.2	9.2
Market capitalization Dec. 31, M€	77.1	137.0	217.5	185.7	201.0
Number of shares Dec. 31 (1 000)	6 600	6 645	6 645	8 860	8 860
common	2 600	2 600	2 599	3 378	3 373
preferred	4 000	4 045	4 046	5 482	5 487
Average number of shares $(1\ 000)^{2}$	8 800	8 811 8 860	8 860 8 860	8 860 8 860	8 860
Adjusted number of shares Dec. 31 (1 000) <sup>2)</sup>					8 860
Number of shareholders Dec. 31	1 773	1 629	1 653 2	1 769	1 788 2
Nominee-registered ownerships Dec. 31	3	2	2	3	2

#### EARNINGS/SHARE

Net income before extraordinary items, taxes and minority interest - taxes - minority interest Year-end number of shares adjusted for issue

EQUITY/SHARE

Equity

Year-end number of shares adjusted for issue

PRICE/EARNINGS (P/E)

Year-end trading price adjusted for issue Earnings/share (EPS)

<sup>1)</sup> 1999 Board of Directors' proposal

<sup>3)</sup> Trading volume made commensurable with current par value.

<sup>2)</sup> Adjusted for share issue

### BOARD OF DIRECTORS' PROPOSAL TO ANNUAL GENERAL MEETING

Consolidated distributable earnings total FIM 433,314,000.00.

Parent company's distributable earnings Contingency reserve Retained earnings from previous years Net income for the year	FIM 13,178,868. 29 363,806,531.75 75,364,276.03 452,349,676.07
<ul> <li>The Board proposes that this sum be appropriated as follows:</li> <li>- a dividend of 0.96 euro a share paid on 3,373,066 common shares, totalling</li> <li>- a dividend of 1.00 euro a share paid on 5,486,934</li> </ul>	19,253,126.11
preferred shares, totalling	32,623,828.09
<ul> <li>to be kept in contingency reserve</li> <li>to be retained</li> </ul>	13,178,868.29
- to be retained	<u>387,293,853.58</u> <u>452,349,676.07</u>

Helsinki, February 15, 2000

Mikael von Frenckell	Axel Cedercreutz			
Martin Lilius	Vesa Kainu			
Jouko Oksanen				
Risto Hautamäki				

President

### AUDITORS' REPORT

to the shareholders of Tamfelt Corp.

We have audited the book-keeping, the financial statements and the administration of Tamfelt Corp. for the financial year 1999. The financial statements, which include the report of the Board of Directors, consolidated and parent company income statement, balance sheet, cash flow statement and notes to the financial statement, have been prepared by the Board of Directors and President. Based on our audit we express an opinion on these financial statements and on administration.

We have conducted the audit in accordance with Finnish Standards on Auditing. Those standards require that we perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatements. An audit includes examining on a test basis evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by the management as well as evaluating the overall financial statement presentation. The purpose of our audit of administration is to examine that the members of the Board of Directors and President have legally complied with the rules of the Companies Act.

In our opinion the financial statements have been prepared in accord-

Tampere, February 23, 2000

Jari Paloniemi Authorized Public Accountant Eero Suomela Authorized Public Accountant

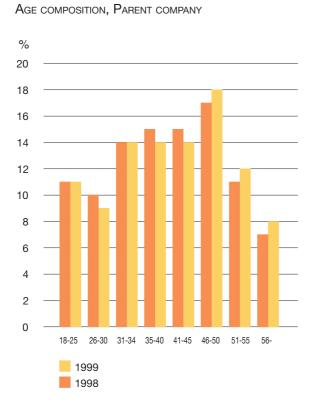
ance with the Accounting Act and other rules and regulations governing the preparation of financial statements. The financial statements give a true and fair view, as defined in the Accounting Act, of both the consolidated and parent company's result of operations as well as of the financial position.

The financial statements with the consolidated financial statement can be adopted and the members of the Board of Directors and President can be discharged from liability for the period audited by us. The proposal by the Board of Directors regarding the distribution of retained earnings is in compliance with the Companies Act.

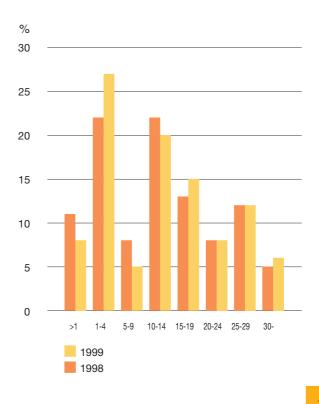
### HUMAN RESOURCES ACCOUNT

Parent company (FIM 1 000)

	1999		1998	
	1.1 - 31.12.	%	1.1 - 31.12.	%
NET SALES	550 888	100	527 000	100
Personnel expenses	225 185	41	210 821	40
Payroll for regular worktime	158 222	29	148 177	26
Payments by results	5 521	1	4 509	2
Payments for overtime	5 271	1	5 544	1
Personnel renewal				
Recruiting and job orientation	3 805	1	3 798	1
Vacation payments	28 271	5	26 969	5
Other holiday payments	8 421	2	8 834	2
Personnel development				
Training	2 943		3 209	1
Other measures to maintain and				
improve working ability	1 959		1 666	
Sick payments	3 078	1	3 205	1
Disability pension expenses	5 092	1	1 630	
Other personnel expenses	2 601		3 279	1
Outsourced services	6 971	1	7 102	1
Other costs and expenses	243 368	44	228 821	43
NET INCOME FOR THE YEAR	75 364	14	80 256	15



YEARS IN THE PARENT COMPANY



### **ENVIRONMENTAL REPORT**



### TAMFELT'S ENVIRONMENTAL POLICY AND ENVIRONMENTAL MANAGEMENT SYSTEM

Tamfelt's environmental policy has been designed to promote sustainable development. It considers the major environmental impacts of the Juankoski and Tampere plants and the requirements of environmental legislation. The Group's Executive Board and the representatives of personnel groups endorsed the policy in August 1997.

The goal is to avoid unnecessary use of energy, electricity and water and to save natural resources by efficient use of raw materials. Efforts are made to reduce waste amounts and to increase the reuse of materials. Waste hazardous to the environment or human health is transported to plants specializing in the disposal of hazardous waste.

Tamfelt's environmental management system is based on the SFS-EN ISO 14001 standard and the parent company was certified on March 2,1998. The company's management is responsible for the development and implementation of the environmental management system.

### **ENVIRONMENTAL RISKS**

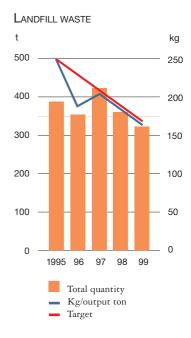
Environmental risks from Tamfelt's activities are low. Potential risks at the Tampere plant are provided by the hot oil system and the location of the plant in a watershed area. At the Juankoski mill, environmental risks are very low. There were no accidents leading to environmental damage at either plant in 1998.

### MAJOR ENVIRONMENTAL IMPACTS AND THEIR TREND IN 1999

The Tampere plant takes its service water from the nearby Kaukajärvi lake. Following a dry and hot summer, the water level fell in the lake, and it was necessary to restrict water intake towards the end of the summer. The contents and amounts of waste water discharged into the municipal sewerage system through an equalizing basin were below the licenced rates.

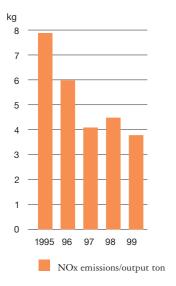
The boiler plant of the Tampere facilities was fuelled by natural gas. The nitrogen oxide and carbon dioxide emissions produced by the combustion were lower than in the previous year. Tamfelt was a party in an air-quality monitoring program run by the city of Tampere.

At both plants more than half of the waste consists of raw material residue. At the Tampere plant, the amount of landfill waste was cut by 16 % per output ton. In waste recycling, the 1999 target of the environmental program was exceeded. At the Juankoski plant, the amount of landfill waste grew, and the targets of the

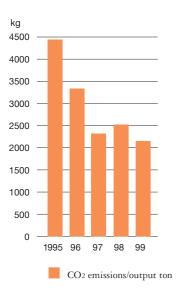


RECOVERED MATERIAL

**NITROGEN OXIDE EMISSIONS** 



 $C_{\text{ARBON DIOXIDE EMISSIONS}}$ 



environmental management program were not reached. All hazardous waste was sent to an appropriate disposal plant.

All of the product groups failed to reach the targets of raw material reuse. The recycling of cloth waste in the parent company grew from 37 to 41 %.

90 % of the packings supplied by Tamfelt are reused. The amount of packing is 280 kg per product ton.

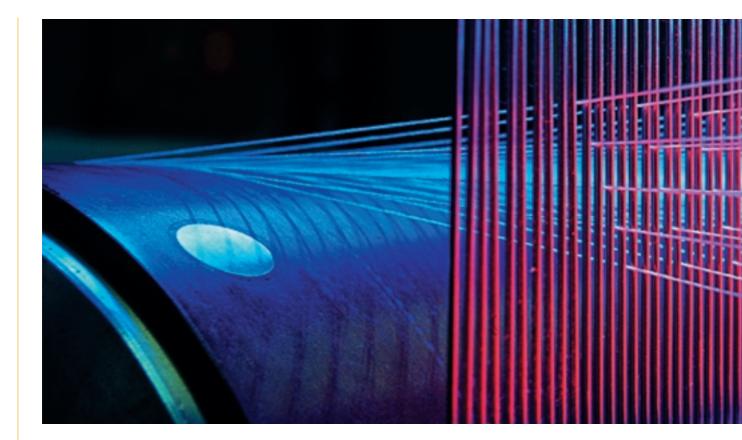
#### OTHER ENVIRONMENTAL IMPACTS

Tamfelt's products are mainly made of PA, PES and PP filaments. Suppliers have been informed on the requirements of Tamfelt's environmental management system. Emissions from passenger and goods transports and energy consumption at the Tampere plant were under survey in 1998. Used forming fabrics and felts can be put into service in soil improvement or another secondary application, or be burnt or disposed of in a landfill site.

### STAKEHOLDER RELATION

Government officials had no objections to Tamfelt's environmental performance. At the end of the year, the Tampere plant launched the process of environmental license application and the renewal of chemical report and the license to conduct sewage into a watercourse. The company's employees have actively contributed to developing the environmental program. They are committed to the program and they can express their opinions within the suggestion scheme as well. Tamfelt's customers have also asked questions about the

management of environmental issues in the company.



### TAMFELT PRODUCTS

Tamfelt produces technical textiles which are used in the process industry. The products can be roughly divided in three lines: paper machine clothing, filter fabrics and ironer felts.

### PAPER MACHINE CLOTHING

In paper manufacture, clothing forming fabrics and felts - is used to transport the web of paper through the process and to remove water. The goal is a trouble-free process enabling the customer to make high-quality paper economically and effectively. The constantly advancing technology of large and high-speed paper machines presents a huge challenge to the clothing supplier. As a full-line supplier, Tamfelt provides solutions for the entire machine, with products and technical services complementing each other. Tamfelt is an experienced start-up supplier for large and high-speed SC,

LWC, newsprint, fine paper and board machines.

### FORMING FABRICS

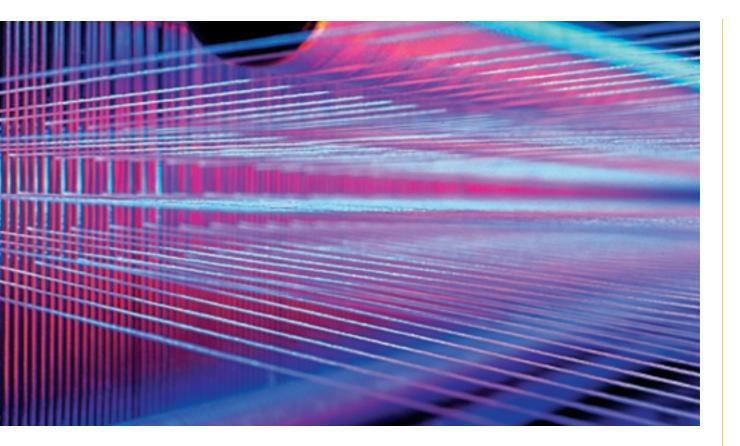
The pulp sprayed on the wire section contains 99 % water and 1 % fibers and in some cases also fillers or additives. Most of the water is removed on the wire section. A paper web is formed as water flows through the fabric and the fibers stay on top of the fabric. This is a crucial phase, determining many of the most important qualities of the paper. The fabric should also guarantee economic operation of the paper machine. Forming fabrics are woven from plastic yarns.

### PRESS FELTS

From the wire section the web is conducted to the press section. The main function of the press section is to remove water. The web is pressed between rolls and a continuous felt. This increases water pressure and makes the water flow into the felt.







The structure of the press felt affects the dry content of the web. A higher dry content improves machine runnability and reduces the need for energy at drying. Felt properties affect printability and other qualities of the paper. Press felts are made of synthetic fibers by weaving and needling techniques. The Aquaduct felts make an exception; they are produced by a patented non-weaving method. The Aquanet felts are made by combining a woven and a nonwoven base fabric.

### $S_{\text{HOE}\ \text{PRESS}\ \text{BELTS}}$

The press sections of new paper and board machines have one or several shoe presses instead of conventional roll presses. The belt functions like a roller jacket, but it is elastic and flexible. Shoe press belts - Tambelts - are either smooth or grooved. They are cast of polyurethane into cylindrical roller jackets. Yarns are used as reinforcement.

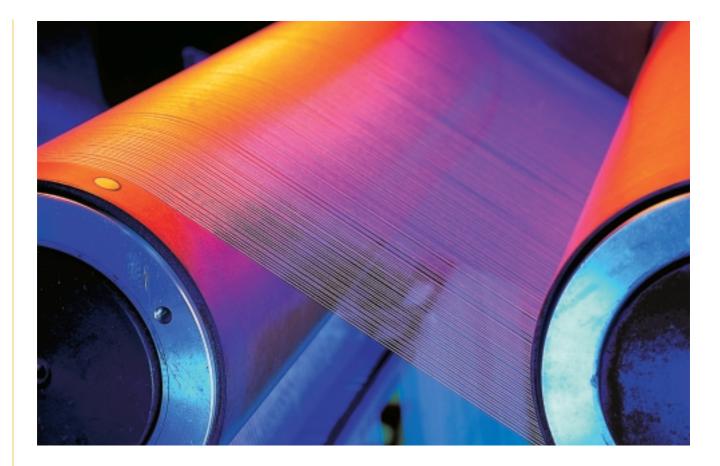
Press felts

Dryer fabrics

Forming fabrics

Press belts

The dewatering capacity of a shoe press is essentially higher. This saves energy in paper manufacture. Besides, it improves paper quality and strength. A shoe press is operated with a belt. With paper machine speeds exceeding 1500 m/min, fully closed web transfer has become increasingly important. In a closed transfer, a belt replaces one of the paper machine felts. The transfer belts are made of various types of polymers.



### DRYER FABRICS

On the dryer section, the dry content of the web is further increased by evaporation. The dryer fabric presses the web against the surface of steam-heated drying cylinders. The temperature of the web rises and water is effectively evaporated into and through a porous dryer fabric. The dryer fabric also helps to support the web as it moves from a cylinder to another and between the dryer groups. Dryer fabrics are woven of plastic yarns.

### FILTER FABRICS

PRODUCTS FOR THE PULP AND PAPER INDUSTRY

Filter fabrics are used in the manufacture of pulp and paper in several machines throughout the process. Pulp cooking chemicals are removed in post-cooking washers. In the bleaching process, the pulp is washed several times and water is always removed by filtering. The same applies to the manufacture of mechanical pulp and the reuse of fiber recovered from recycled paper.

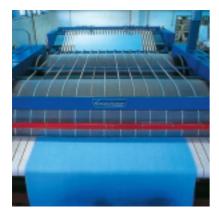
In the causticization process of a pulp mill, cooking chemicals are recycled and cleaned to be returned to cooking. This process is mainly employed in the filtration of white liquor and lime mud.

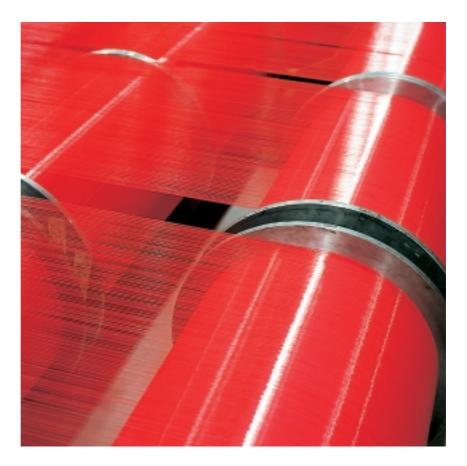
Fiber emissions from paper machines and filters are filtered before discharging into waste water. The slurry resulting from waste water treatment is filtered and dried for incineration or transportation to a landfill site.

- The biggest product groups are:
- Shrink fabrics for drum filters
- Disc filter bags
- Lime mud filter fabrics
- White liquor and green liquor fabrics, dregs filter fabrics
- Double press filter fabrics









# PRODUCTS FOR THE MINING INDUSTRY

Filter fabrics are employed in various processes in dressing in the mining industry, in the metallurgical and chemical industries and in the treatment of community and industrial waste water.

The biggest product groups are:

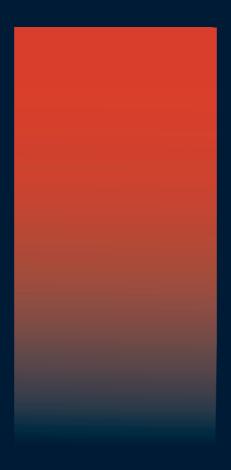
- Cloths for automatic pressure filters
- Disc filter bags and plastic sectors
- Cloths and fabrics for belt filter presses
- Double press filter fabrics
- Pressure filter cloths
- Drum filter cloths
- Cloths for electrolyse

### DRY FILTRATION PRODUCTS

Dry filtration products are used to separate solids from gases. The filtering of industrial flue gases and exhaust air is an essential part of air pollution control. Solid particles are either returned to the process, converted into energy by incineration, or taken to a landfill site. The filters use filter cassettes, cylinders and bags, which are made of various types of felts.

### **IRONER FELTS**

Commercial and institutional laundries provide their customers with clean and dry textiles. The dryers use ironer felts, which are installed around rotating rolls. They render the fabric smooth and give it a pleasant feel. Besides, the felt absorbs moisture from the fabric. Ironer felts are produced in various qualities, depending on the technology employed by the dryer and the customer's requirements for the end product. The heaviest felts weigh around four kilograms and the lightest under 700 grams a square metre. Ironer felts must be hightly resistant to abrasion, heat and moisture.





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