

# Fact Book

**ZEON CORPORATION**

2002/06/06  
Revised 2003/07/15

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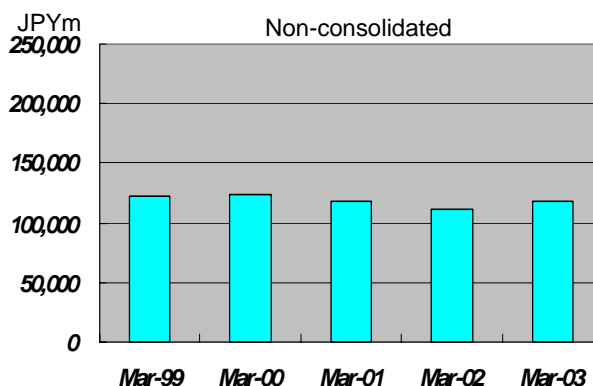
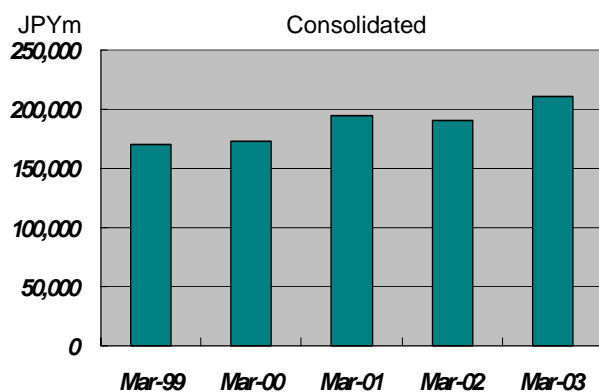
**VII. CAPACITY**

\*Each Fiscal year is from April 1<sup>st</sup> to March 31<sup>st</sup> .

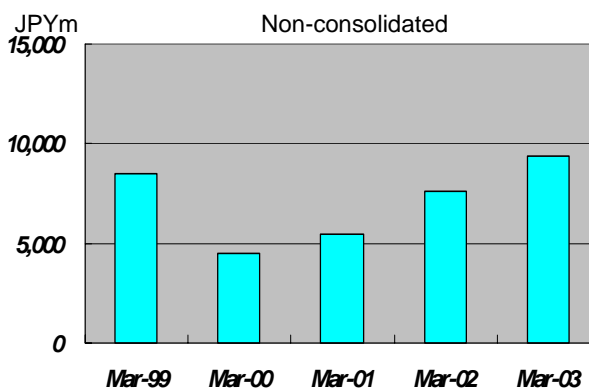
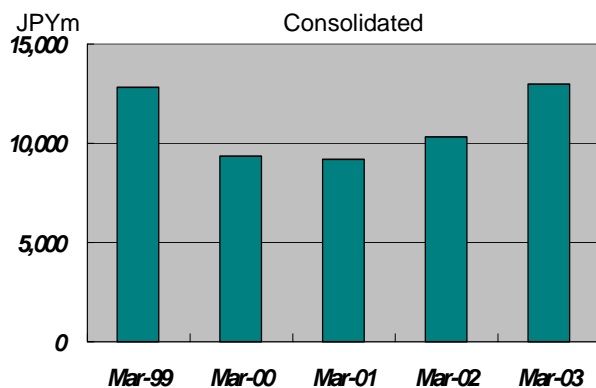
(Unit: JPYm)

|                      | Mar-99  | Mar-00  | Mar-01  | Mar-02  | Mar-03         |
|----------------------|---------|---------|---------|---------|----------------|
| Net sales            | 170,453 | 173,262 | 194,201 | 191,168 | <b>210,889</b> |
| Operating income     | 12,784  | 9,364   | 9,194   | 10,323  | <b>12,945</b>  |
| Net income           | 4,234   | 1,934   | 2,693   | 28      | <b>3,050</b>   |
| Total assets         | 227,889 | 222,701 | 235,058 | 232,728 | <b>216,000</b> |
| Shareholders' equity | 63,330  | 63,984  | 63,357  | 65,487  | <b>65,170</b>  |

Net Sales



Operating income



Common Stock & Shareholders' Equity

(Unit: JPYm)

|                      | Mar-99 | Mar-00 | Mar-01 | Mar-02 | Mar-03 |
|----------------------|--------|--------|--------|--------|--------|
| Common Stock         | 24,211 | 24,211 | 24,211 | 24,211 | 24,211 |
| Shareholders' Equity | 63,330 | 63,984 | 63,357 | 65,487 | 65,170 |

Stocks

(As of March 31, '03)

|               |                                       |               |                         |
|---------------|---------------------------------------|---------------|-------------------------|
| Issued Stocks | Registered, Par-Value JPY50 per share | Common Stocks | Number of Stocks Issued |
|               |                                       |               | 242,075,556             |

Stock Exchange

Tokyo (First Section)

Osaka (First Section)

Nagoya (First Section)

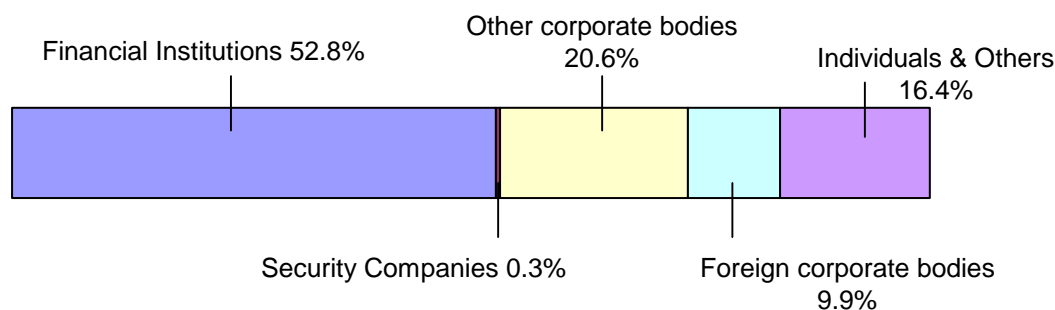
Major Shareholders

(As of March 31, '03)

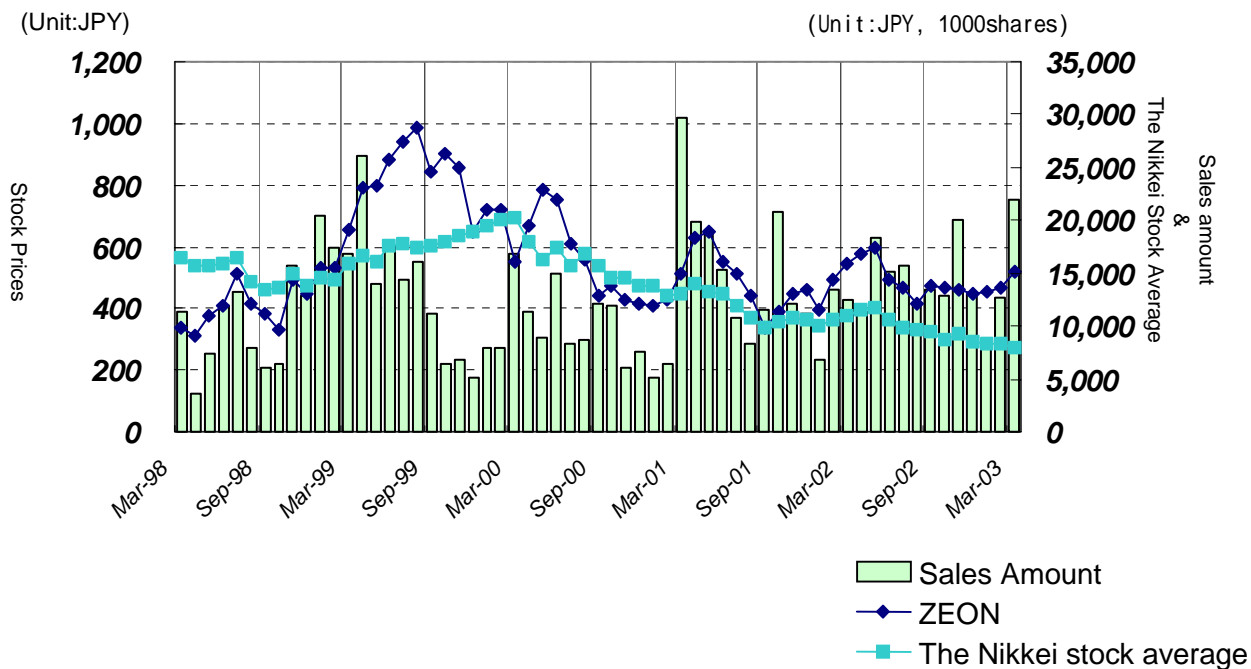
| Shareholder                           | Number of Holding Shares (thousand) | Rate (%) |
|---------------------------------------|-------------------------------------|----------|
| Furukawa Electric Co.,Ltd.            | 15,032                              | 6.23     |
| The Master Trust Bank of Japan, Ltd.  | 14,459                              | 6.00     |
| Japan Trustee Services Bank, Ltd.     | 13,862                              | 5.75     |
| Yokohama Rubber Co.,Ltd.              | 11,632                              | 4.82     |
| Asahi Mutual Life Insurance Company   | 7,679                               | 3.18     |
| Nippon Life Insurance Co.             | 7,103                               | 2.95     |
| Trust and Custody Services Bank: Ltd. | 6,479                               | 2.69     |
| ASAHI KASEI CORP.                     | 6,438                               | 2.67     |
| UFJ Trust Bank Ltd.                   | 5,692                               | 2.36     |
| Mizuho Corporate Bank, Ltd.           | 5,577                               | 2.31     |

Distribution of Stock Ownership

(As of March 31, '03)



Stock Prices & Sales amount



Valuation

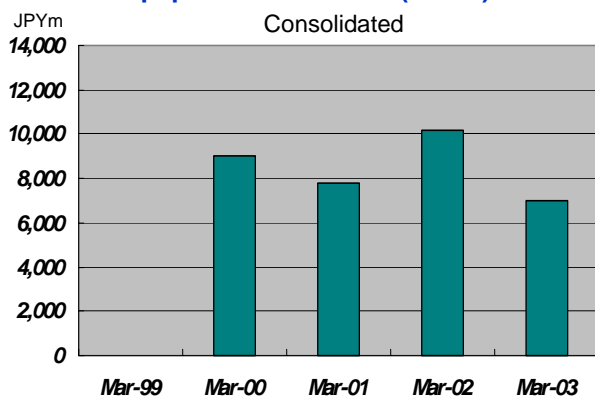
|  | Mar-99 | Mar-00 | Mar-01 | Mar-02  | Mar-03 |
|--|--------|--------|--------|---------|--------|
| <b>Stock Price (JPY)</b>                   | 654    | 550    | 515    | 544     | 521    |
| <b>EPS (JPY)</b><br>(Earnings Per Share)   | 17.5   | 8.0    | 11.2   | 0.1     | 12.4   |
| <b>PER (X)</b><br>(Price Earnings Ratio)   | 37.4   | 68.8   | 46.2   | 4,691.7 | 41.3   |
| <b>CFPS (JPY)</b><br>(Cash Flow Per Share) | 57.9   | 52.0   | 52.0   | 42.4    | 55.5   |
| <b>BPS(JPY)</b><br>(Book-value Per Share)  | 262    | 264    | 262    | 271     | 270    |
| <b>PBR(X)</b><br>(Price Book-value Ratio)  | 2.50   | 2.08   | 1.96   | 2.01    | 1.93   |

Number of Employees

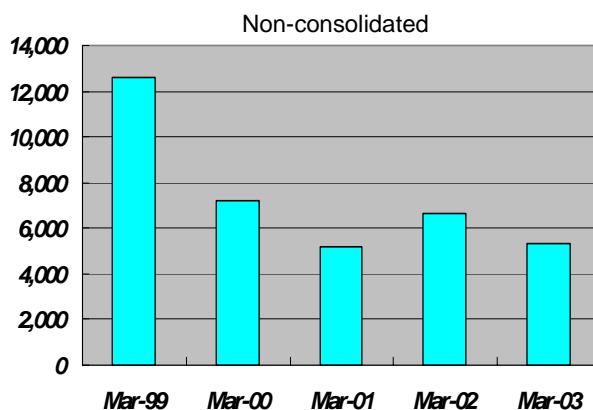
(Unit; Employees)

|                         | Mar-99 | Mar-00 | Mar-01 | Mar-02 | Mar-03 |
|-------------------------|--------|--------|--------|--------|--------|
| <b>Consolidated</b>     | -      | 2,712  | 2,806  | 2,782  | 2,868  |
| <b>Non Consolidated</b> | 2,632  | 2,568  | 2,465  | 2,300  | 2,110  |

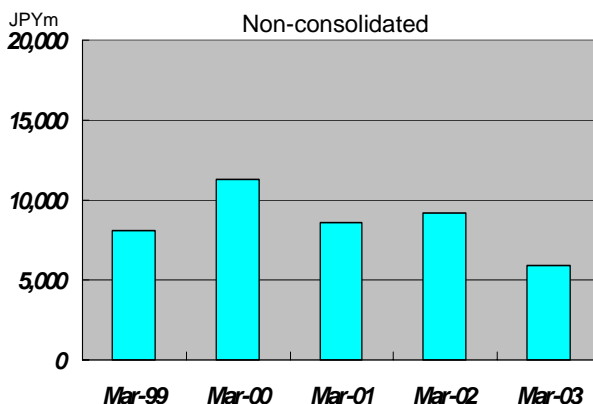
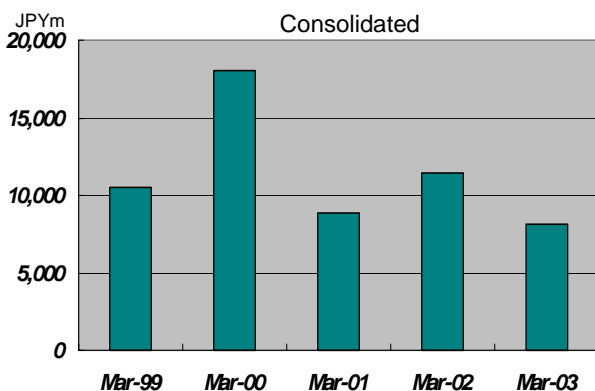
Plant and Equipment Investment(JPYm)



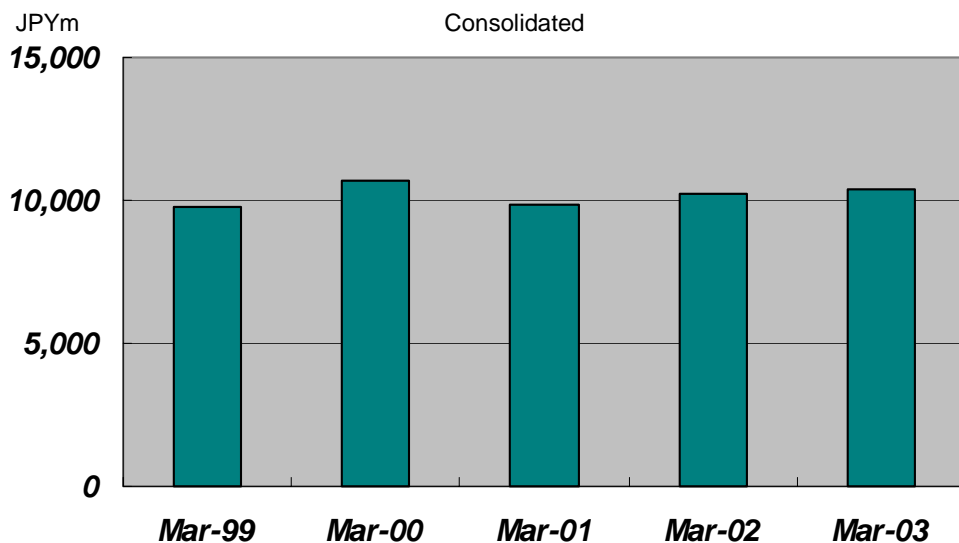
JPYm



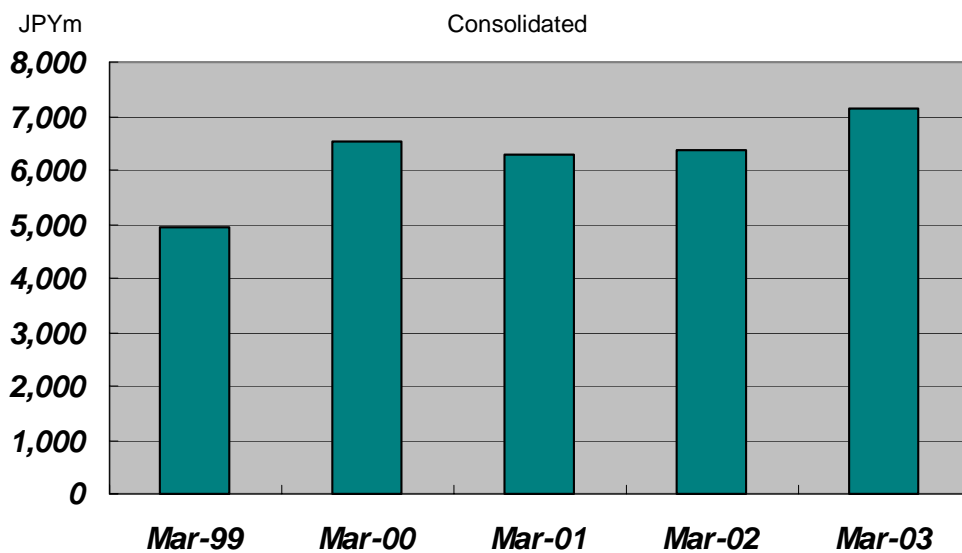
Capital Expenditures



Depreciation & Amortization



Research and Development



Note) The Amount FY1998 are the amount after deducting differed charge transfer.

Financial Highlights

(Unit: JPYm)

|                                | Mar-99  | Mar-00  | Mar-01  | Mar-02  | Mar-03         |
|--------------------------------|---------|---------|---------|---------|----------------|
| Net sales                      | 170,453 | 173,262 | 194,201 | 191,168 | <b>210,889</b> |
| Operating income               | 12,784  | 9,364   | 9,194   | 10,323  | <b>12,945</b>  |
| Income before income taxes     | 7,632   | 4,037   | 3,565   | 1,472   | <b>4,591</b>   |
| Net income                     | 4,234   | 1,934   | 2,693   | 28      | <b>3,050</b>   |
| Net income per Share           | 17.49   | 7.99    | 11.15   | 0.11    | <b>12.41</b>   |
| ROE (%)                        | 6.8     | 3.0     | 4.2     | 0.0     | <b>4.7</b>     |
| Total assets                   | 227,889 | 222,701 | 235,058 | 232,728 | <b>216,000</b> |
| Shareholders' equity           | 63,330  | 63,984  | 63,357  | 65,487  | <b>65,170</b>  |
| Equity Ratio(%)                | 27.8%   | 28.7%   | 26.9%   | 28.1%   | <b>30.2%</b>   |
| Shareholders' equity per share | 261.6   | 264.3   | 262.4   | 271.2   | <b>269.4</b>   |

Statements of Income

(Unit: JPYm)

|  | Mar-99  | Mar-00  | Mar-01  | Mar-02  | Mar-03         |
|--|---------|---------|---------|---------|----------------|
| Net Sales  | 170,453 | 173,262 | 194,201 | 191,168 | <b>210,889</b> |
| Cost of sales  | 122,012 | 126,477 | 147,625 | 142,483 | <b>156,988</b> |
| Gross profit   | 48,441  | 46,785  | 46,576  | 48,685  | <b>53,901</b>  |
| SG&A   | 35,657  | 37,421  | 37,382  | 38,362  | <b>40,956</b>  |
| Operating income   | 12,784  | 9,364   | 9,194   | 10,323  | <b>12,945</b>  |
| Other income and expenses                                | 5,152   | 5,327   | 5,629   | 8,851   | <b>8,354</b>   |
| Income before income taxes                               | 7,632   | 4,037   | 3,565   | 1,472   | <b>4,591</b>   |
| Taxes  | 3,388   | 3,342   | 3,553   | 880     | <b>2,591</b>   |
| Adjustment of corporate taxes                            | -       | -943    | -2,643  | 478     | <b>-1,036</b>  |
| Minority interest in income of consolidated subsidiaries | 10      | -296    | -38     | -86     | <b>14</b>      |
| Net Income   | 4,234   | 1,934   | 2,693   | 28      | <b>3,050</b>   |

Balance Sheets

(Unit: JPYm)

|  | Mar-99         | Mar-00         | Mar-01         | Mar-02         | Mar-03         |
|--|----------------|----------------|----------------|----------------|----------------|
| <b>Assets</b>  |                |                |                |                |                |
| Current assets   | 132,394        | 125,000        | 122,194        | 121,454        | 107,763        |
| Long-term assets   | 92,158         | 93,220         | 112,365        | 111,105        | 108,227        |
| Deferred charges   | 1,276          | 876            | 499            | 169            | 10             |
| Foreign currency translation adjustment                      | 2,061          | 3,605          | -              | -              | -              |
| <b>Total assets</b>  | <b>227,889</b> | <b>222,701</b> | <b>235,058</b> | <b>232,728</b> | <b>216,000</b> |
| <b>Liabilities</b>   |                |                |                |                |                |
| Current liabilities  | 98,659         | 99,539         | 112,389        | 118,683        | 114,987        |
| Long-term liabilities  | 65,331         | 59,051         | 57,994         | 47,406         | 34,643         |
| Exchange conversion adjustments                              | -              | -              | -              | -              | -              |
| Minority interests   | -              | -              | -              | -              | -              |
| <b>Total Liabilities</b>                                     | <b>163,990</b> | <b>158,590</b> | <b>170,383</b> | <b>166,089</b> | <b>149,630</b> |
| <b>Minority Interests</b>                                    | <b>569</b>     | <b>127</b>     | <b>1,318</b>   | <b>1,152</b>   | <b>1,200</b>   |
| <b>Shareholders' Equity</b>                                  |                |                |                |                |                |
| Common stock   | 24,211         | 24,211         | 24,211         | 24,211         | 24,211         |
| Capital surplus  | 18,336         | 18,336         | 18,336         | 18,336         | 18,336         |
| Retained earnings  | 20,783         | 21,437         | 23,862         | 23,112         | 24,168         |
| Foreign currency translation adjustment                      | -              | -              | -2,728         | -467           | -1,380         |
| Net unrealized holding gain on available-for-sale securities |                |                | -              | 469            | 16             |
| Treasury stock, at cost                                      |                |                | -324           | -174           | -181           |
| <b>Total shareholders' Equity</b>                            | <b>63,330</b>  | <b>63,984</b>  | <b>63,357</b>  | <b>65,487</b>  | <b>65,170</b>  |
| <b>Total Liabilities, minority interests</b>                 | <b>227,889</b> | <b>222,701</b> | <b>235,058</b> | <b>232,728</b> | <b>216,000</b> |

## Non-consolidated Financial Highlights

(Unit: JPYm)

|                                | <i>Mar-99</i> | <i>Mar-00</i> | <i>Mar-01</i> | <i>Mar-02</i> | <i>Mar-03</i>  |
|--------------------------------|---------------|---------------|---------------|---------------|----------------|
| Net sales                      | 122,065       | 124,164       | 118,536       | 111,983       | <b>117,948</b> |
| Operating income               | 8,487         | 4,494         | 5,464         | 7,633         | <b>9,366</b>   |
| Income before income taxes     | 2,432         | 2,669         | 2,063         | 113           | <b>3,775</b>   |
| Net income                     | 569           | 1,521         | 1,199         | 52            | <b>2,569</b>   |
| Net income per Share           | 2.35          | 6.28          | 4.95          | 0.22          | <b>10.41</b>   |
| ROE (%)                        | 0.9           | 2.5           | 2.0           | 0.1           | <b>4.2</b>     |
| Total assets                   | 188,466       | 187,238       | 184,871       | 172,047       | <b>153,824</b> |
| Shareholders' equity           | 60,164        | 60,779        | 60,739        | 60,460        | <b>60,642</b>  |
| Equity Ratio(%)                | 31.9%         | 32.5%         | 32.8%         | 35.1%         | <b>39.4%</b>   |
| Shareholders' equity per share | 284.5         | 251.1         | 250.9         | 249.8         | <b>250.3</b>   |

## Non-consolidated Statements of Income

(Unit: JPYm)

|                             | <i>Mar-99</i> | <i>Mar-00</i> | <i>Mar-01</i> | <i>Mar-02</i> | <i>Mar-03</i>  |
|-----------------------------|---------------|---------------|---------------|---------------|----------------|
| Net Sales                   | 122,065       | 124,164       | 118,536       | 111,983       | <b>117,948</b> |
| Cost of sales               | 86,230        | 91,200        | 87,870        | 80,176        | <b>84,013</b>  |
| Gross profit                | 35,834        | 32,963        | 30,665        | 31,806        | <b>33,934</b>  |
| SG&A                        | 27,347        | 28,469        | 25,200        | 24,172        | <b>24,568</b>  |
| Operating income            | 8,487         | 4,494         | 5,464         | 7,633         | <b>9,366</b>   |
| Other income and expenses   | 6,055         | 1,825         | 3,401         | 7,520         | <b>5,591</b>   |
| Income before income taxes  | 2,432         | 2,669         | 2,063         | 113           | <b>3,775</b>   |
| Taxes                       | 1,863         | 2,289         | 2,385         | 245           | <b>1,761</b>   |
| Adjustment of corporate tax | -             | -1,140        | -1,520        | -184          | <b>-556</b>    |
| Net Income                  | 569           | 1,521         | 1,199         | 52            | <b>2,569</b>   |

## Non-consolidated Balance Sheets

(Unit: JPYm)

|  | Mar-99         | Mar-00         | Mar-01         | Mar-02         | Mar-02         |
|--|----------------|----------------|----------------|----------------|----------------|
| <b>Assets</b>  |                |                |                |                |                |
| Current assets   | 103,214        | 100,740        | 85,289         | 76,308         | 62,024         |
| Long-term assets   | 84,127         | 85,747         | 99,208         | 95,582         | 91,800         |
| Deferred charges   | 1,125          | 750            | 373            | 156            | -              |
| Foreign currency translation adjustment                      | -              | -              | -              | -              | -              |
| <b>Total assets</b>  | <b>188,466</b> | <b>187,238</b> | <b>184,871</b> | <b>172,047</b> | <b>153,824</b> |
| <b>Liabilities</b>   |                |                |                |                |                |
| Current liabilities  | 74,622         | 77,293         | 96,903         | 74,910         | 70,517         |
| Long-term liabilities  | 53,679         | 49,165         | 67,228         | 36,675         | 22,664         |
| <b>Total Liabilities</b>                                     | <b>128,302</b> | <b>126,458</b> | <b>124,132</b> | <b>111,586</b> | <b>93,181</b>  |
| <b>Shareholders' Equity</b>                                  |                |                |                |                |                |
| Common stock   | 24,211         | 24,211         | 24,211         | 24,211         | 24,211         |
| Capital surplus  | 18,335         | 18,335         | 18,335         | 18,335         | 18,335         |
| Legal reserve  | 2,687          | 2,812          | 2,937          | 3,026          | -              |
| Retained earnings  | 14,929         | 15,420         | 15,254         | 14,320         | 18,066         |
| Net unrealized holding gain on available-for-sale securities |                | -              | -              | 567            | 36             |
| Treasury stock, at cost                                      |                |                |                |                | -7             |
| <b>Total shareholders' Equity</b>                            | <b>60,164</b>  | <b>60,779</b>  | <b>60,739</b>  | <b>60,460</b>  | <b>60,642</b>  |
| <b>Total Liabilities and shareholders' equity</b>            | <b>188,466</b> | <b>187,238</b> | <b>184,871</b> | <b>172,047</b> | <b>153,824</b> |

## Segment Information (As of March 31, '02)

(Unit: JPYm)

|                                      | Rubbers       | Latices       | Chemicals     | Information,<br>the environment<br>and health | Others        | Total          | Elimination<br>s and<br>corporate | Consolidated   |
|--------------------------------------|---------------|---------------|---------------|---|---------------|----------------|-----------------------------------|----------------|
| <b>I. Sales and operating income</b> |               |               |               |   |               |                |                                   |                |
| <b>Sales</b>                         |               |               |               |   |               |                |                                   |                |
| (1) Sales to third parties           | 90,848        | 14,778        | 25,567        | 31,221  | 48,475        | 210,889        | -                                 | 210,889        |
| (2) Inter-group sales and transfers  | 43            | -             | -             | 82  | 630           | 755            | (755)                             | -              |
| <b>Total</b>                         | <b>90,891</b> | <b>14,778</b> | <b>25,567</b> | <b>31,303</b>                                 | <b>49,105</b> | <b>211,644</b> | <b>(755)</b>                      | <b>210,889</b> |
| Operating expenses                   | 85,108        | 13,856        | 22,510        | 29,236  | 48,025        | 198,735        | (791)                             | 197,944        |
| Operating income                     | 5,783         | 922           | 3,057         | 2,067   | 1,080         | 12,909         | 36                                | 12,945         |
| <b>II. Assets, depreciation and</b>  |               |               |               |   |               |                |                                   |                |
| Total assets                         | 89,280        | 11,377        | 24,544        | 31,125  | 24,980        | 181,306        | 34,694                            | 216,000        |
| Depreciation                         | 4,495         | 591           | 1,759         | 2,192   | 343           | 9,380          | 977                               | 10,357         |
| Capital expenditures                 | 2,549         | 391           | 690           | 3,105   | 269           | 7,004          | 1,124                             | 8,128          |

## Products by Segments

|  |   |
|--|---|
| <b>Rubbers</b>                                 | Styrene-Butadiene Rubber (SBR), Polybutadiene Rubber (BR), Nitrile Rubber (NBR), Hydrogenated NBR, Polyisoprene Rubber (IR) , Acrylic Rubber  |
| <b>Latices</b>                                 | SB latex, Acrylate latex, BR latex, NBR Latex   |
| <b>Chemicals</b>                               | C5 fraction resin, Thermoplastic elastomer, Water reduce for concrete, Epoxy resin hardner, Synthetic aroma, Fine chemicals   |
| <b>Information, the environment and health</b> | Electronic materials, Polymerized toner, Binder resin for magnetic media, Cyclo-olefin polymer (COP) and the fine processed products with COP, Civil engineering Materials, RIM products, Medical equipment |
| <b>Others</b>                                  | Technology licensing, Technology transfer   |

## Sales

|   | Unit:JPYm      |                |                |                |                |
|---|----------------|----------------|----------------|----------------|----------------|
|   | Mar-99         | Mar-00         | Mar-01         | Mar-02         | Mar-03         |
| Rubbers                                 | 72,291         | 68,267         | 80,975         | 81,640         | 90,848         |
| Latices                                 | 17,050         | 14,811         | 15,493         | 13,975         | 14,778         |
| Chemicals                               | 21,217         | 20,666         | 21,177         | 23,357         | 25,567         |
| Information, the environment and health | 23,556         | 26,772         | 29,387         | 27,717         | 31,221         |
| Others                                  | 36,339         | 42,746         | 47,169         | 44,479         | 48,475         |
| Eliminations and corporate assets       | -              | -              | -              | -              | -              |
| <b>Total</b>                            | <b>170,453</b> | <b>173,262</b> | <b>194,201</b> | <b>191,168</b> | <b>210,889</b> |

## Operating income

|   | Unit:JPYm     |              |              |               |               |
|---|---------------|--------------|--------------|---------------|---------------|
|   | Mar-99        | Mar-00       | Mar-01       | Mar-02        | Mar-03        |
| Rubbers                                 | 8,773         | 6,791        | 5,267        | 3,561         | 5,783         |
| Latices                                 | 2,029         | 428          | 1,336        | 1,892         | 922           |
| Chemicals                               | 3,744         | 1,650        | 1,760        | 3,310         | 3,057         |
| Information, the environment and health | -1,702        | -738         | 332          | 724           | 2,067         |
| Others                                  | -82           | 1,229        | 502          | 845           | 1,080         |
| Eliminations and corporate assets       | 22            | 4            | -3           | -9            | 36            |
| <b>Total</b>                            | <b>12,784</b> | <b>9,364</b> | <b>9,194</b> | <b>10,323</b> | <b>12,945</b> |

## Total assets

|   | Unit:JPYm      |                |                |                |                |
|---|----------------|----------------|----------------|----------------|----------------|
|   | Mar-99         | Mar-00         | Mar-01         | Mar-02         | Mar-03         |
| Rubbers                                 | 80,575         | 76,464         | 97,456         | 100,470        | 89,280         |
| Latices                                 | 13,840         | 13,905         | 13,026         | 12,910         | 11,377         |
| Chemicals                               | 23,694         | 25,462         | 25,595         | 24,622         | 24,544         |
| Information, the environment and health | 28,102         | 30,744         | 33,157         | 32,161         | 31,125         |
| Others                                  | 28,579         | 29,794         | 30,206         | 26,140         | 24,980         |
| Eliminations and corporate assets       | 53,099         | 46,332         | 35,618         | 36,425         | 34,694         |
| <b>Total</b>                            | <b>227,889</b> | <b>222,701</b> | <b>235,058</b> | <b>232,728</b> | <b>216,000</b> |

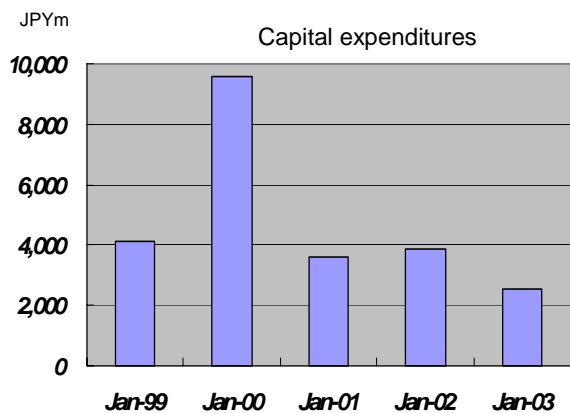
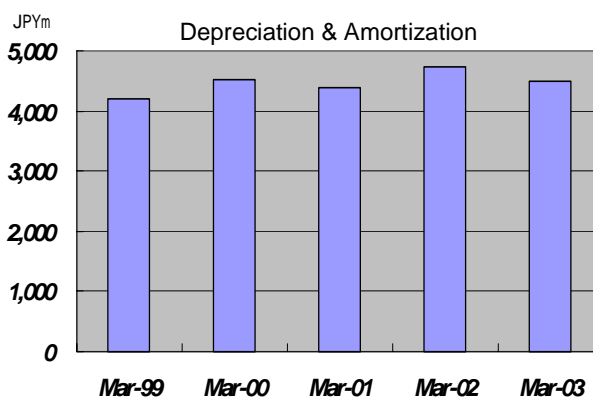
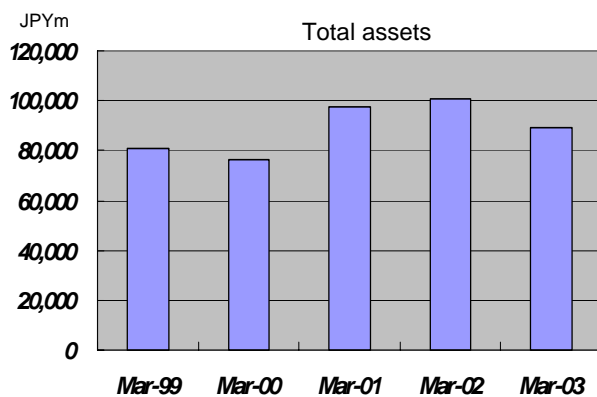
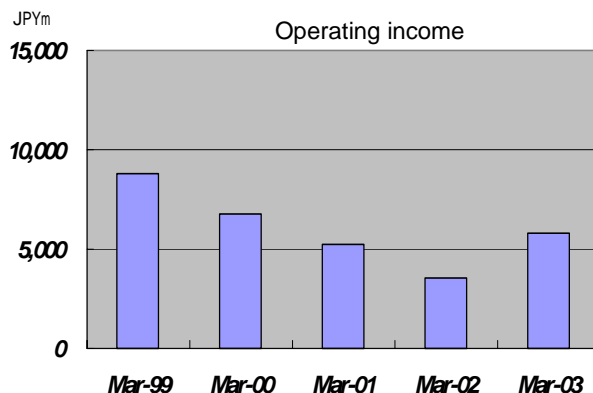
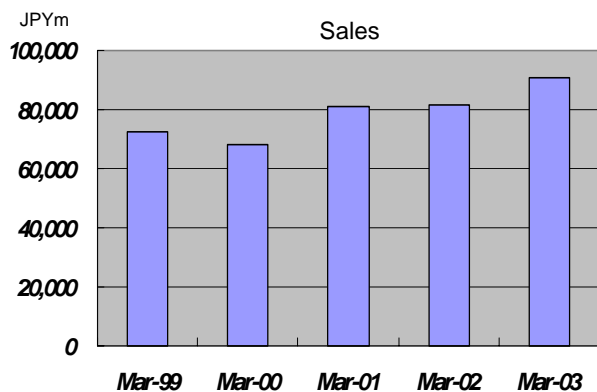
## Depreciation &amp; Amortization

|   | Unit:JPYm    |               |              |               |               |
|---|--------------|---------------|--------------|---------------|---------------|
|   | Mar-99       | Mar-00        | Mar-01       | Mar-02        | Mar-03        |
| Rubbers                                 | 4,204        | 4,512         | 4,389        | 4,744         | 4,495         |
| Latices                                 | 1,103        | 992           | 777          | 639           | 591           |
| Chemicals                               | 822          | 1,681         | 1,733        | 1,716         | 1,759         |
| Information, the environment and health | 2,385        | 2,043         | 2,003        | 2,066         | 2,192         |
| Others                                  | 935          | 848           | 410          | 434           | 343           |
| Eliminations and corporate assets       | 338          | 581           | 545          | 621           | 977           |
| <b>Total</b>                            | <b>9,787</b> | <b>10,657</b> | <b>9,857</b> | <b>10,220</b> | <b>10,357</b> |

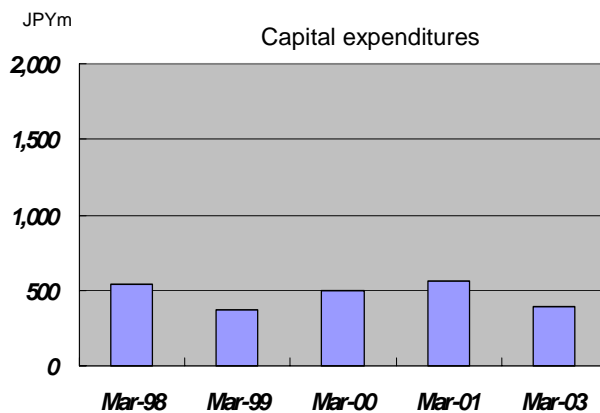
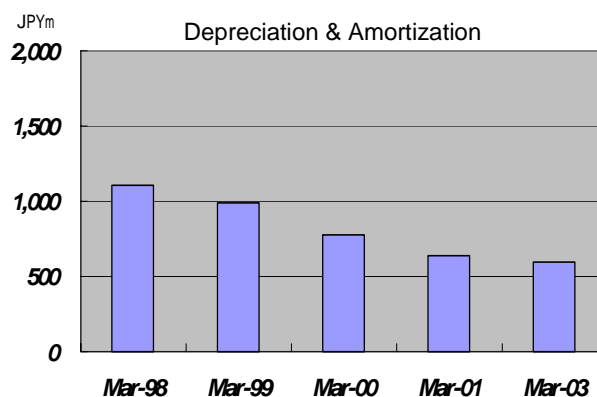
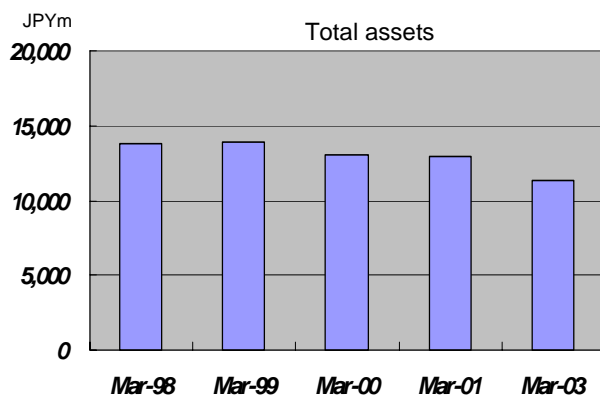
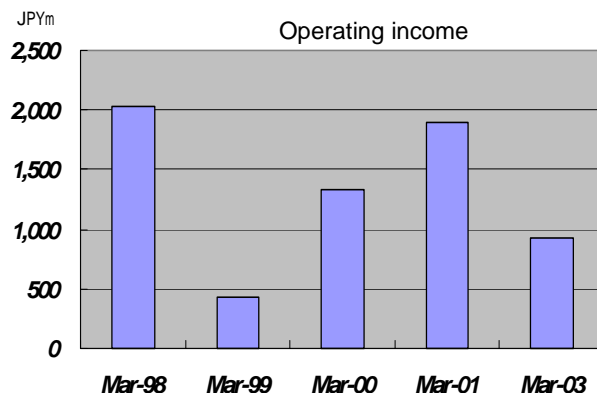
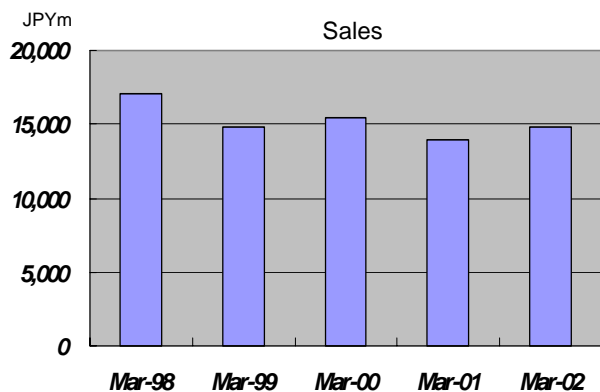
## Capital expenditures

|   | Unit:JPYm     |               |              |               |              |
|---|---------------|---------------|--------------|---------------|--------------|
|   | Mar-99        | Mar-00        | Mar-01       | Mar-02        | Mar-03       |
| Rubbers                                 | 4,151         | 9,551         | 3,606        | 3,864         | 2,549        |
| Latices                                 | 541           | 373           | 496          | 563           | 391          |
| Chemicals                               | 1,748         | 6,239         | 1,081        | 693           | 690          |
| Information, the environment and health | 2,401         | 1,117         | 3,064        | 3,297         | 3,105        |
| Others                                  | 943           | 311           | 166          | 714           | 269          |
| Eliminations and corporate assets       | 713           | 426           | 428          | 2,355         | 1,124        |
| <b>Total</b>                            | <b>10,497</b> | <b>18,017</b> | <b>8,841</b> | <b>11,486</b> | <b>8,128</b> |

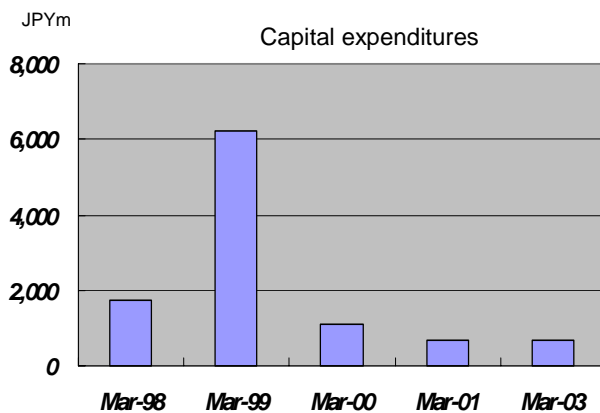
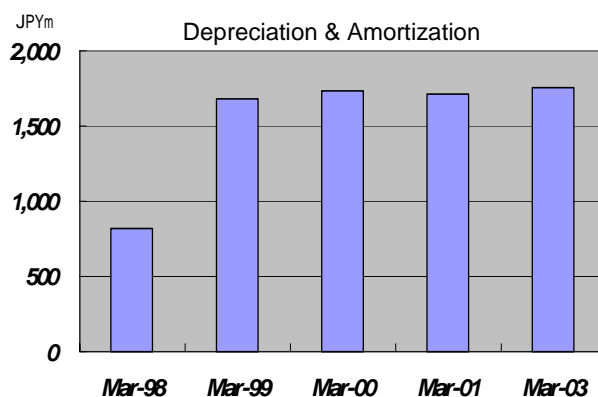
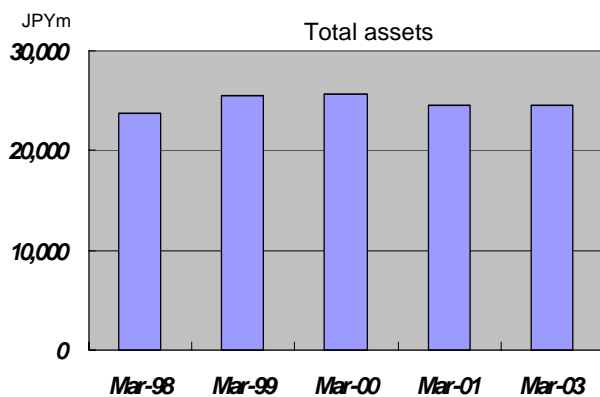
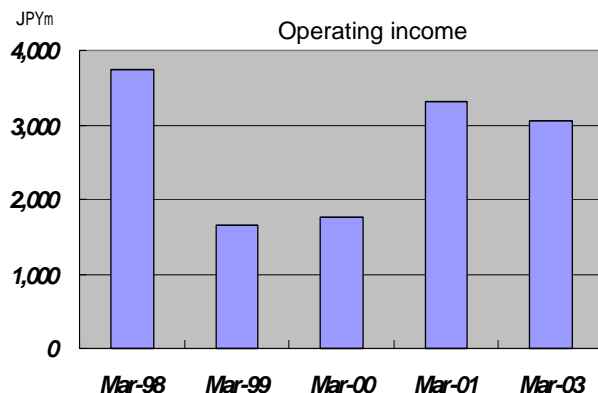
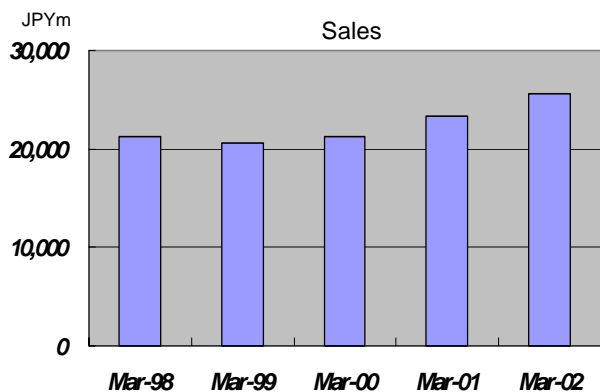
Rubbers



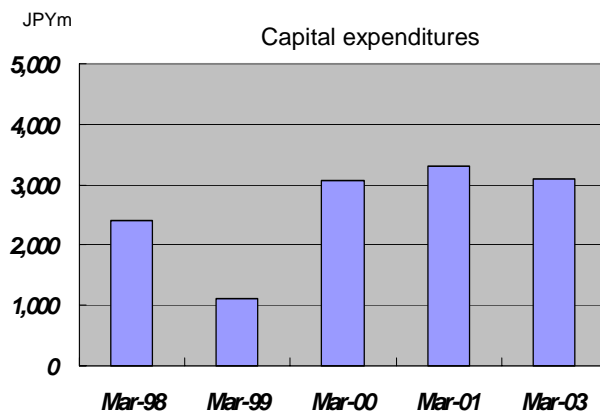
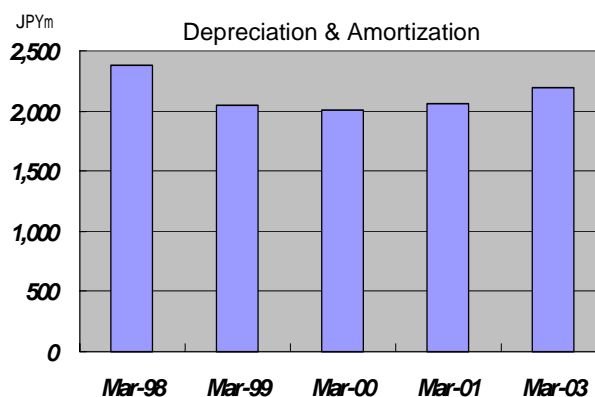
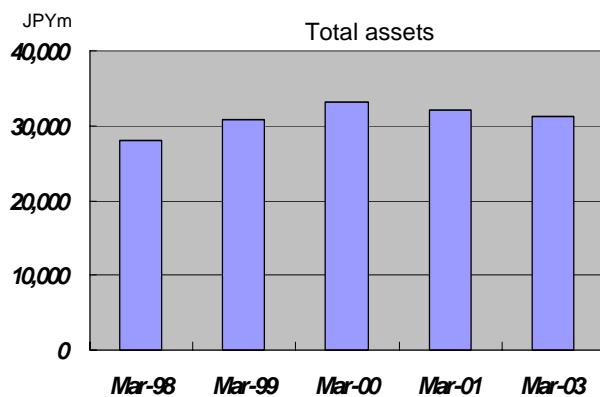
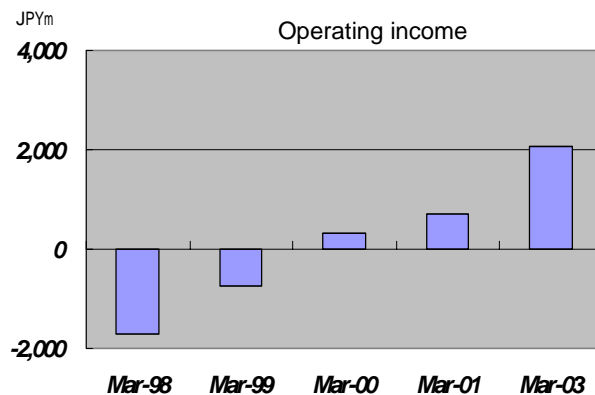
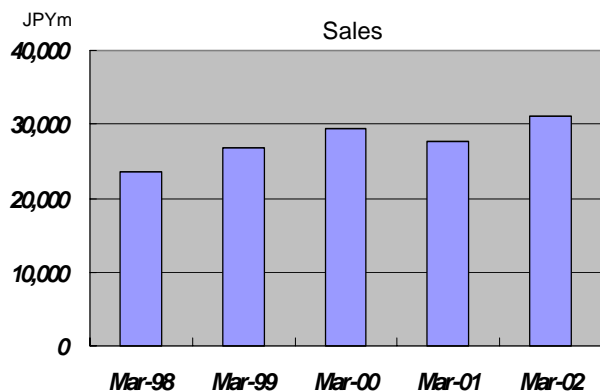
Latices



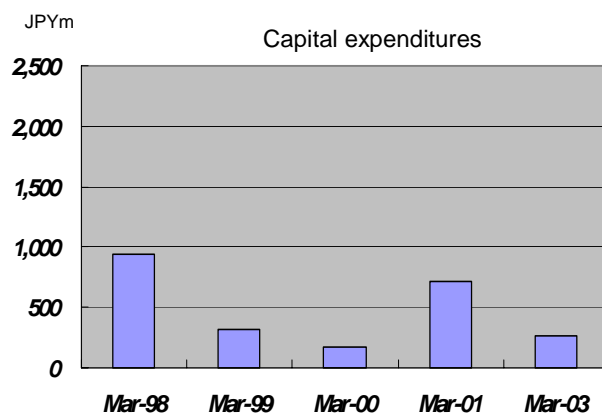
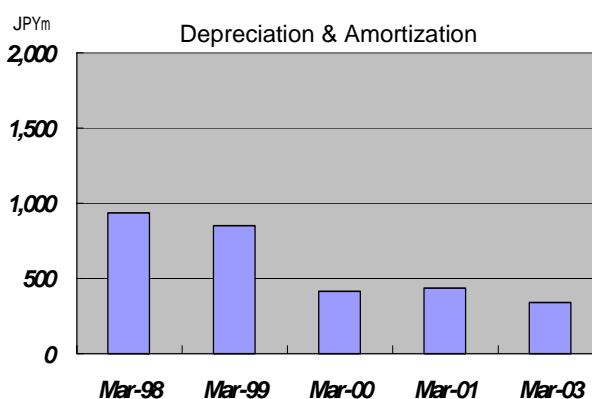
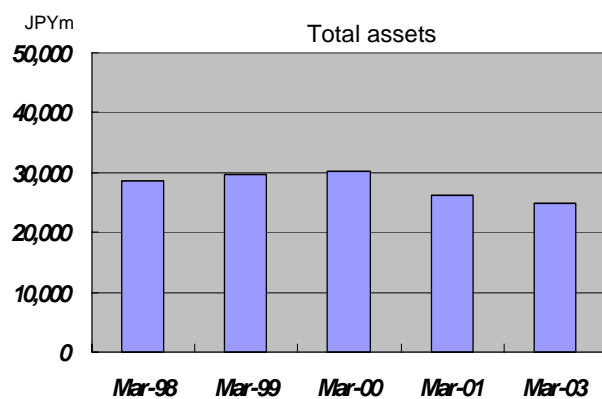
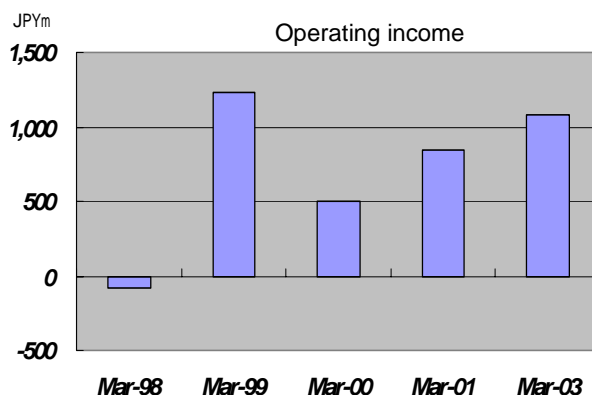
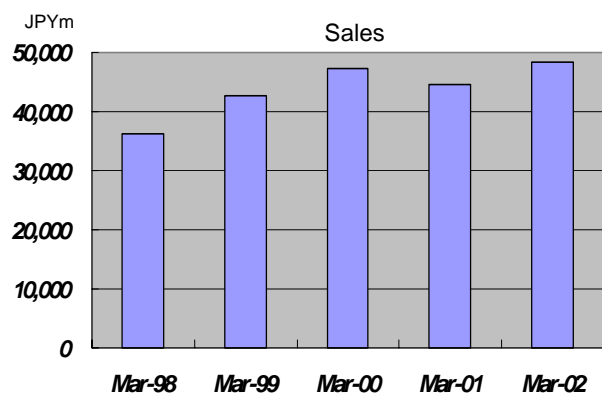
Chemicals



Information, the environment and health



Others



## Capacity

|  | Tokuyama              | Kawasaki             | Takaoka | Mizushima | USA    | UK     | Thailand | Unit:t/y |
|--|-----------------------|----------------------|---------|-----------|--------|--------|----------|----------|
|  |                       |                      |         |           |        |        |          | Total    |
| <b>Monomer</b>                         |                       |                      |         |           |        |        |          |          |
| Butadiene                              | 150,000               |                      |         | 140,000   |        |        |          | 290,000  |
| Isoprene                               |                       |                      |         | 80,000    |        |        |          | 80,000   |
| <b>Synthetic Rubbers</b>               |                       |                      |         |           |        |        |          |          |
| ESBR                                   | 110,000               |                      |         |           |        |        |          | 110,000  |
| SSBR                                   | 55,000                |                      |         |           |        |        |          | 55,000   |
| BR                                     | 65,000                |                      |         |           |        |        |          | 65,000   |
| HSR                                    | 17,600 <sup>(a)</sup> |                      |         |           |        |        |          |          |
| NBR                                    | 45,000 <sup>(a)</sup> |                      |         |           | 35,000 | 15,000 |          | 50,000   |
| HNBR                                   |                       |                      | 3,950   |           | 2,000  |        |          | 5,950    |
| IR                                     |                       |                      |         | 40,000    |        |        |          | 40,000   |
| Others                                 |                       | 8,900                |         |           | 16,000 |        |          | 24,900   |
| <b>Synthetic Latices</b>               | 92,500 <sup>(a)</sup> |                      |         |           |        |        |          |          |
| <b>Resins</b>                          |                       | 5,900 <sup>(b)</sup> |         |           |        |        |          |          |
| <b>Chemicals</b>                       |                       |                      |         |           |        |        |          |          |
| C5 fraction resin                      |                       |                      |         | 30,000    |        |        | 20,000   | 50,000   |
| DCPD resin                             |                       |                      |         | 10,000    |        |        |          | 10,000   |
| SIS                                    |                       |                      |         | 30,000    |        |        |          | 30,000   |
| Epoxy resin hardner                    |                       |                      |         | 4,000     |        |        |          | 4,000    |
| Water reducers for concrete and others |                       |                      |         | 5,000     |        |        |          | 5,000    |
| <b>Specialty Chemicals</b>             |                       |                      |         |           |        |        |          |          |
| Synthetic aroma                        |                       |                      |         | 1,750     |        |        |          | 1,750    |
| <b>Cyclo-olefin Polymer</b>            |                       |                      |         | 5,000     |        |        |          | 5,000    |
| <b>Polymerized toner</b>               | 2,500                 |                      |         |           |        |        |          | 2,500    |

(a) Total capacity of Tokuyama and Kawasaki Plants.

(b) Total capacity of Kawasaki and Takaoka Plants.

# References

\*Each year on the following tables and figure is from Jan. 1<sup>st</sup> to Dec. 31<sup>st</sup>.

## Production for Major Petrochemicals(Japan)

Unit: t /y

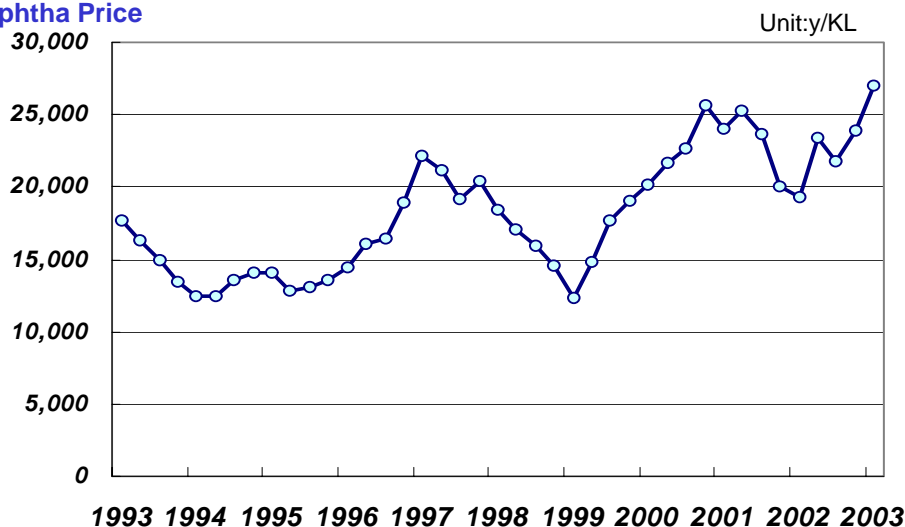
|                   |                                     | 1997      | 1998      | 1999      | 2000      | 2001      | 2002      |           |
|-------------------|-------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                   |                                     | Quantity  | Quantity  | Quantity  | Quantity  | Quantity  | Quantity  |           |
| Basic Products    | Ethylene                            | 7,416,174 | 7,075,518 | 7,686,607 | 7,613,678 | 7,360,714 | 7,151,725 |           |
|                   | Propylene                           | 5,408,568 | 5,100,555 | 5,519,843 | 5,453,166 | 5,341,889 | 5,308,564 |           |
|                   | Butadiene                           | 1,052,171 | 976,874   | 1,035,076 | 1,043,536 | 976,086   | 992,583   |           |
|                   | Styrene                             | 3,035,299 | 2,770,099 | 3,054,680 | 2,968,383 | 3,003,912 | 3,015,731 |           |
|                   | Acrylonitrile                       | 730,077   | 667,133   | 737,724   | 732,089   | 737,813   | 708,175   |           |
| Synthetic Rubbers | Styrene-Butadiene Rubber(SBR)       | 741,867   | 704,327   | 721,191   | 692,941   | 640,775   | 685,238   |           |
|                   | Butadiene Rubber(BR)                | 315,806   | 287,258   | 308,059   | 300,788   | 268,917   | 273,621   |           |
|                   | Acrylonitrile-Butadiene Rubber(NBR) | 74,249    | 70,677    | 68,714    | 86,533    | 89,061    | 90,044    |           |
|                   | Polychloroprene Rubber(CR)          | 90,314    | 85,967    | 84,813    | 92,509    | 85,648    | 87,212    |           |
|                   | Ethylene-Propylene Terpolymer(EPDM) | 208,057   | 205,036   | 224,812   | 233,408   | 209,546   | 211,157   |           |
|                   | Others                              | 161,586   | 166,825   | 169,389   | 183,993   | 171,576   | 174,600   |           |
|                   | Sub-Total                           | 1,591,879 | 1,520,090 | 1,576,978 | 1,590,172 | 1,465,523 | 1,521,872 |           |
| Plastics          | Low-density Polyethylene            | 1,839,229 | 1,760,397 | 1,855,586 | 1,892,484 | 1,851,656 | 1,788,937 |           |
|                   | High-density Polyethylene           | 1,313,190 | 1,168,040 | 1,301,074 | 1,246,383 | 1,239,728 | 1,180,963 |           |
|                   | Polypropylene                       | 2,854,305 | 2,520,378 | 2,626,320 | 2,721,260 | 2,696,202 | 2,641,476 |           |
|                   | Polystyrene                         | GP-HI     | 1,318,002 | 1,162,396 | 1,180,960 | 1,156,382 | 1,052,663 | 1,021,563 |
|                   |                                     | FS        | 205,513   | 193,614   | 196,471   | 185,432   | 172,496   | 172,850   |
|                   | SAN                                 | 137,790   | 115,246   | 116,915   | 135,536   | 122,376   | 134,370   |           |
|                   | ABS                                 | 539,727   | 503,526   | 543,270   | 546,411   | 462,338   | 509,067   |           |
|                   | Petroleum Resin                     | 145,151   | 132,958   | 137,576   | 137,420   | 132,914   | 140,052   |           |

(Source: Japan Petrochemical Industry Association)

(Notes) 1. The subjects of major petrochemicals are based on "Chemical Industry Statistics" from Ministry of Economy, Trade and Industry of Japan.

2. Data in 2002 partially include prompt reports.

## Domestic Naphtha Price



## Changes in Consumption of Rubber; Ratio of Synthetic Rubber(Japan)

Unit: t /y

|                          |                | 1998      | 1999      | 2000      | 2001      | 2002      | 2003 (prompt) |
|--------------------------|----------------|-----------|-----------|-----------|-----------|-----------|---------------|
| Rubber<br>Manufacturers  | Tires          | 1,122,200 | 1,153,900 | 1,173,730 | 1,137,910 | 1,181,010 | 1,226,260     |
|                          | Industrial use | 254,000   | 252,620   | 254,700   | 239,990   | 229,140   | 227,310       |
|                          | Footwear       | 12,020    | 11,405    | 10,030    | 8,790     | 3,990     | 3,990         |
|                          | Others         | 43,180    | 41,075    | 40,540    | 38,810    | 19,860    | 19,240        |
|                          | Sub-Total      | 1,431,400 | 1,459,000 | 1,479,000 | 1,425,500 | 1,434,000 | 1,476,800     |
| <b>Other Products</b>    |                | 391,600   | 408,100   | 410,400   | 388,800   | 391,800   | -             |
| <b>Total</b>             |                | 1,823,000 | 1,867,100 | 1,889,400 | 1,814,300 | 1,825,800 | -             |
| <b>Change(%)</b>         |                | 97.2      | 102.4     | 101.2     | 96.0      | 100.6     | -             |
| <b>Synthetic Rubbers</b> |                | 1,115,700 | 1,132,900 | 1,137,600 | 1,085,100 | 1,087,600 | -             |
| <b>Rate of Usage(%)</b>  |                | 61.2      | 60.7      | 60.2      | 59.8      | 59.6      | -             |

(Source: The Japan Rubber Manufacturers Association)

## Changes in Consumption of Raw Material for Tire and Tubes(Japan)

Unit: t /y

|                             | 1998      | 1999      | 2000      | 2001      | 2002      |
|-----------------------------|-----------|-----------|-----------|-----------|-----------|
| <b>New Rubber (A)</b>       | 1,081,424 | 1,143,663 | 1,146,068 | 1,115,462 | 1,180,054 |
| <b>Synthetic Rubber (B)</b> | 488,006   | 522,575   | 512,075   | 496,146   | 525,331   |
| <b>B/A(%)</b>               | 45.13     | 45.69     | 44.68     | 44.48     | 44.52     |

(Source: The Japan Automobile Tyre Manufacturers Association, Inc.)

## Capacity of Japan's Synthetic Rubber Manufacturers

Unit:1000 t /y

| Company                     | SBR<br>Solid | BR         | IR        | EPW<br>EPDM | IIR        | NBR<br>Solid | CR        | Total        | Plant                                     |
|-----------------------------|--------------|------------|-----------|-------------|------------|--------------|-----------|--------------|---|
| JSR Corporation             | 240          | 72         | 36        | 70          |            | 40           |           | 458          | Yokkaichi, Chiba, Kashima                 |
| Japan Buthyl<br>(JSR Group) |              |            |           |             | 115        |              |           | 115          | Kawasaki, Kashima                         |
|                             | 240          | 70         | 36        | 70          | 115        | 40           |           | 573          |   |
| <b>Zeon Corporation</b>     | 220          | 58         | 37        |             |            | 45           |           | 360          | Kawasaki, Takaoka,<br>Tokuyama, Mizushima |
| Asahi Chemical Industry     | 67           | 63         |           |             |            |              |           | 130          | Kawasaki                                  |
| Sumitomo Petrochemica       | 50           |            |           | 35          |            |              |           | 85           | Chiba                                     |
| Ube Industries              |              | 85         |           |             |            |              |           | 85           | Chiba                                     |
| Mitsubishi Chemical         | 65           |            |           |             |            |              |           | 65           | Yokkaichi                                 |
| Mitsui Chemicals            |              |            |           | 60          |            |              |           | 60           | Chiba                                     |
| Denki Kagaku Kogyo          |              |            |           |             |            |              | 48        | 48           | Ome                                       |
| Japan Elastomer             | 28           | 20         |           |             |            |              |           | 48           | Tsurusaki                                 |
| Idemitsu DSM                |              |            |           | 40          |            |              |           | 40           | Chiba                                     |
| Tosoh                       |              |            |           |             |            |              | 30        | 30           | Shimnanyo                                 |
| Showa Denko - DuPont        |              |            |           |             |            |              | 20        | 20           | Kawasaki                                  |
| Takeda Chemical Industries  |              |            |           |             |            | 1            |           | 1            | Shimizu                                   |
| <b>Total</b>                | <b>670</b>   | <b>298</b> | <b>73</b> | <b>205</b>  | <b>115</b> | <b>86</b>    | <b>98</b> | <b>1,545</b> |   |

(Source: International Institute of Synthetic Rubber Producers)

## Changes in Production of Major Synthetic Rubber(World)

Unit:1000 t /y

|                | 1998         | 1999          | 2000          | 2001          | 2002          |
|----------------|--------------|---------------|---------------|---------------|---------------|
| <b>U.S.A.</b>  | 2,600        | 2,354         | 2,396         | 2,064         | <b>2,082</b>  |
| <b>U.K.</b>    | 252          | 283           | 286           | 270           | <b>280</b>    |
| <b>France</b>  | 606          | 569           | 669           | 672           | <b>648</b>    |
| <b>Germany</b> | 619          | 720           | 849           | 828           | <b>831</b>    |
| <b>Italy</b>   | 290          | 279           | 285           | 274           | <b>268</b>    |
| <b>Spain</b>   | 96           | 88            | 88            | 88            | <b>89</b>     |
| <b>Canada</b>  | 191          | 180           | 188           | 143           | <b>142</b>    |
| <b>Japan</b>   | 1,520        | 1,577         | 1,592         | 1,465         | <b>1,439</b>  |
| <b>China</b>   | 589          | 754           | 836           | 1,052         | <b>1,104</b>  |
| <b>Korea</b>   | 547          | 655           | 678           | 663           | <b>670</b>    |
| <b>Taiwan</b>  | 472          | 495           | 465           | 480           | <b>526</b>    |
| <b>Others</b>  | 2,098        | 2,323         | 2,538         | 2,491         | <b>2,461</b>  |
| <b>Total</b>   | <b>9,880</b> | <b>10,300</b> | <b>10,870</b> | <b>10,490</b> | <b>10,540</b> |

(Source: International Rubber Study Group)

Note) Data in 2002 are projection.

## Change in Consumption of Synthetic Rubber in Major Countries (World)

Unit:1000 t /y

|                | 1998         | 1999          | 2000          | 2001          | 2002          |
|----------------|--------------|---------------|---------------|---------------|---------------|
| <b>U.S.A.</b>  | 2,354        | 2,113         | 2,190         | 1,840         | <b>1,851</b>  |
| <b>U.K.</b>    | 177          | 189           | 188           | 167           | <b>168</b>    |
| <b>France</b>  | 451          | 434           | 482           | 465           | <b>444</b>    |
| <b>Germany</b> | 569          | 604           | 632           | 612           | <b>626</b>    |
| <b>Italy</b>   | 275          | 287           | 291           | 276           | <b>273</b>    |
| <b>Spain</b>   | 229          | 242           | 269           | 262           | <b>272</b>    |
| <b>Canada</b>  | 238          | 221           | 233           | 228           | <b>220</b>    |
| <b>Japan</b>   | 1,116        | 1,133         | 1,138         | 1,085         | <b>1,090</b>  |
| <b>China</b>   | 1,000        | 1,285         | 1,455         | 1,575         | <b>1,650</b>  |
| <b>Korea</b>   | 277          | 394           | 382           | 373           | <b>370</b>    |
| <b>Taiwan</b>  | 272          | 263           | 262           | 223           | <b>242</b>    |
| <b>Others</b>  | 2,922        | 3,035         | 3,308         | 3,234         | <b>3,144</b>  |
| <b>Total</b>   | <b>9,880</b> | <b>10,200</b> | <b>10,830</b> | <b>10,340</b> | <b>10,350</b> |

(Source: International Rubber Study Group)

Note) Data in 2002 are projection.

## Capacity of Major World Synthetic Rubber Manufacturers

Unit:1000 t /y

| Manufacturer                                | Coutry   | Capacity          | Products               |
|---|--|-------------------|------------------------|
| Bayer AG                                    | U.S.A., Canada, Germany, France, Belgium           | 1,187             | SBR BR EPDM IIR NBR CR |
| Goodyear Chemicals                          | U.S.A.   | 717 <sup>*1</sup> | SBR BR IR              |
| ExxonMobil Chemical Company                 | U.S.A., France, U.K.                               | 515               | EPDM IIR               |
| Polimeri Europa S.r.l. (former EniChem SpA) | Italy, U.K., France, U.S.A.                        | 723               | SBR BR EPDM NBR CR SBC |
| JSR Corporation                             | Japan  | 458               | SBR BR IR EPDM NBR     |
| Ameripol Synpol Corp.                       | U.S.A.   | 431               | SBR                    |
| Zeon Corporation                            | Japan, U.S.A., U.K.                                | 414 <sup>*2</sup> | SBR BR IR NBR          |
| Dow Chemical                                | Germany, U.S.A., Netherlands, France, North Africa | 405               | SBR BR EPR             |
| Korea Kumho Petrochemical Co.               | Korea  | 403               | SBR BR NBR             |
| Petroflex                                   | Brazil   | 360               | SBR BR NBR TPR         |
| DSM   | U.S.A., Netherlands                                | 335               | SBR EPDM NBR           |
| Firestone Synthetic Rubber & Latex Co.      | U.S.A.   | 305               | SBR BR                 |
| Dupont Dow Elastomers                       | U.S.A., Netherlands                                | 323               | EPDM CR                |
| Taiwan Synthetic Rubber                     | Taiwan   | 210               | SBR BR                 |
| American Synthetic Rubber Corp.             | U.S.A.   | 160               | BR                     |

(Source: International Rubber Study Group)

\*1 Including synthetic Latices.

\*2 Based on the in-firm data

## Global Automobile Production

(Unit: thousand)

|                    | 1998          | 1999          | 2000          | 2001          | 2002          |
|--------------------|---------------|---------------|---------------|---------------|---------------|
| Japan              | 10,050        | 9,892         | 10,141        | 9,777         | 10,257        |
| Korea              | 1,954         | 2,843         | 3,115         | 2,946         | 3,148         |
| China              | 1,628         | 1,830         | 2,069         | 2,331         | 3,251         |
| U.S.A.             | 12,003        | 13,025        | 12,774        | 11,425        | 12,275        |
| Canada             | 2,570         | 3,059         | 2,962         | 2,535         | 2,628         |
| Mexico             | 1,460         | 1,550         | 1,935         | 1,865         | 1,821         |
| Brazil             | 1,586         | 1,351         | 1,682         | 1,798         | 1,793         |
| Germany            | 5,727         | 5,688         | 5,527         | 5,692         | 5,469         |
| France             | 2,954         | 3,180         | 3,348         | 3,628         | 3,693         |
| U.K.               | 1,976         | 1,974         | 1,814         | 1,685         | 1,821         |
| Italy              | 1,693         | 1,701         | 1,738         | 1,580         | 1,427         |
| Spain              | 2,826         | 2,852         | 3,033         | 2,850         | 2,855         |
| Others             | 6,495         | 7,311         | 7,921         | 7,658         | 8,346         |
| <b>Grand Total</b> | <b>52,922</b> | <b>56,256</b> | <b>58,059</b> | <b>55,770</b> | <b>58,784</b> |

(Source: The Japan Automobile Tyre Manufacturers Association, Inc.)

Note) 1. Grand totals in 1998 are of 31 countries.

2. Data in 2002 are from a final report in Japan and a prompt report from OICA in other countries.

