

## THE CAST IRON SECTOR

The Cast Iron Sector is the biggest sector in the industry with a total of 96 foundries divided into 69 for gray iron, 26 for ductile iron, and 1 for malleable iron. These comprise 32.5% of the total foundries in the country. The estimated annual domestic consumption of cast iron castings is shown in the following Table 11.

The net value of domestic consumption is the difference between the total castings locally-produced plus the equivalent value of castings in imported machinery and equipment (in US dollars) minus the value of locally produced machinery and equipment exported (in US dollars). These are summarized in the table below.

Table 11. VALUE OF ANNUAL DOMESTIC CONSUMPTION OF IRON CASTINGS\*  
(In Thousands of USDollars)

ITEM	1996	1997	1998	1999	2000	2001	2002	%CGR
Articles with 100% iron castings:								
Production**(\$1,000/tonne)	468,927	405,538	346,227	328,402	283,312	345,886	225,878	
Importation	8,205	2,954	1,231	1,235	3,169	658	857	
(Exportation)	-118	-126	-322	-67	-11	-5	-11	
<b>Net Total</b>	<b>477,014</b>	<b>408,366</b>	<b>347,136</b>	<b>329,570</b>	<b>286,470</b>	<b>346,539</b>	<b>226,724</b>	<b>- 11.66</b>
Articles with 80% iron castings:								
Production***	429	70	13	28	63	38	14	
Importation	2,148	2,190	1,444	1,734	959	689	790	
(Exportation)	-429	-70	-13	-28	-63	-38	-14	
<b>Net Total</b>	<b>2,148</b>	<b>2,190</b>	<b>1,444</b>	<b>1,734</b>	<b>959</b>	<b>689</b>	<b>790</b>	<b>- 15.36</b>
Articles with 60% iron castings:								
Production***	1,618	2,314	2,273	2,220	3,822	3,005	1,886	
Importation	5,952	6,722	3,824	4,086	4,006	2,640	2,750	
(Exportation)	-1,618	-2,314	-2,273	-2,220	-3,822	-3,005	-1,886	
<b>Net Total</b>	<b>5,952</b>	<b>6,722</b>	<b>3,824</b>	<b>4,086</b>	<b>4,006</b>	<b>2,640</b>	<b>2,750</b>	<b>- 12.08</b>
Articles with 40% iron castings:								
Production***	5,798	6,254	6,118	10,061	13,202	24,601	18,044	
Importation	126,804	137,742	102,765	85,615	81,618	65,407	57,716	
(Exportation)	-5,798	-6,254	-6,118	-10,061	-13,202	-24,601	-18,044	
<b>Net Total</b>	<b>126,804</b>	<b>137,742</b>	<b>102,765</b>	<b>85,615</b>	<b>81,618</b>	<b>65,407</b>	<b>57,716</b>	<b>- 12.29</b>
Articles with 30% iron castings:								
Production***	30	63	2,389	6,843	5,365	485	160	
Importation	85,646	69,124	38,253	42,850	36,950	34,390	36,090	
(Exportation)	-30	-63	-2,389	-6,843	-5,365	-485	-160	
<b>Net Total</b>	<b>85,646</b>	<b>69,124</b>	<b>38,253</b>	<b>42,850</b>	<b>30,102</b>	<b>34,390</b>	<b>36,090</b>	<b>- 13.41</b>
Articles with 25% iron castings:								
Production***	470	526	696	698	976	520	585	
Importation	10,413	12,855	9,176	8,520	8,901	8,588	6,411	
(Exportation)	-470	-526	-696	-698	-976	-520	-585	
<b>Net Total</b>	<b>10,413</b>	<b>12,855</b>	<b>9,176</b>	<b>8,520</b>	<b>8,901</b>	<b>8,588</b>	<b>6,411</b>	<b>- 37.16</b>
Articles with 20% iron castings:								
Production***	4,804	4,983	5,212	4,524	8,820	6,841	6,417	
Importation	132,832	156,153	100,659	86,624	84,396	76,988	54,929	
(Exportation)	-4,804	-4,983	-5,212	-4,524	-6,820	-6,841	-6,417	
<b>Net Total</b>	<b>132,832</b>	<b>156,153</b>	<b>100,659</b>	<b>86,624</b>	<b>84,396</b>	<b>76,988</b>	<b>54,929</b>	<b>- 13.69</b>
Grand Total of All Articles:								
Production	482,076	419,748	362,928	352,776	313,560	381,376	252,984	
Importation	372,000	387,740	257,352	230,664	219,999	189,360	159,543	
(Exportation)	-13,267	-14,336	-17,023	-24,441	-30,259	-35,495	-27,117	
<b>Net Grand Total</b>	<b>840,809</b>	<b>793,152</b>	<b>603,257</b>	<b>558,999</b>	<b>503,300</b>	<b>535,241</b>	<b>385,410</b>	<b>- 12.19</b>

\* MIRDC data as of 2003.

\*\* Domestic production of gray and ductile iron castings at an average cost of *US\$1,000 per tonne*.

\*\*\* Involves the production of machines, machinery, and equipment where the value of production is equal to the value exported.

## THE CAST STEEL SECTOR

The Cast Steel Sector is the smallest sector in the industry with a total of 45 foundries divided into 25 producing carbon and low alloy steels and 20 producing high alloy steels. High alloy steels are of the high-manganese (Hadfield) type and the stainless steels. These foundries comprise 15.3% of the total foundries in the country. The estimated annual domestic consumption of steel castings is shown in the following Table 16.

The net value of domestic consumption is the difference between the total castings locally produced and the equivalent value of castings in imported machinery and equipment (in US dollars) minus the value of locally produced machinery and equipment exported (in US dollars). Table 17 below summarizes these values.

Table 17. VALUE OF DOMESTIC CONSUMPTION OF STEEL CASTINGS\*  
(In Thousands of USDollars)

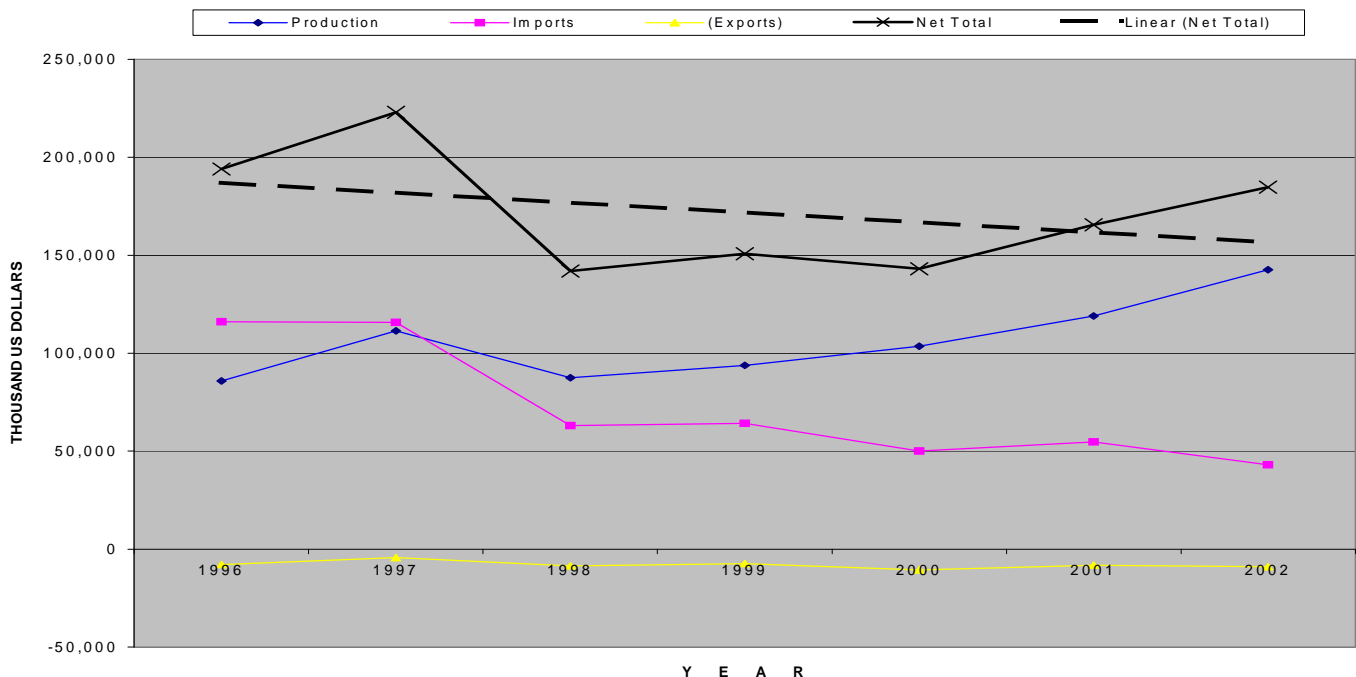
ITEM	1996	1997	1998	1999	2000	2001	2002	%CGR
Articles with 100% steel castings:								
Production*** (\$1,678/tonne)	77,994	107,237	78,972	86,517	92,950	110,824	133,652	
Importation	0	0	0	0	0	0	0	
(Exportation)	0	0	0	0	0	0	0	
<b>Net Total</b>	<b>77,994</b>	<b>107,237</b>	<b>78,972</b>	<b>86,517</b>	<b>92,950</b>	<b>110,824</b>	<b>133,652</b>	<b>9.39</b>
Articles with 50% steel castings:								
Production***	6,880	2,267	4,637	4,787	7,749	4,439	4,458	
Importation	17,289	15,704	11,960	16,200	11,296	18,765	15,131	
(Exportation)	- 6,880	- 2,267	- 4,637	- 4,787	- 7,749	- 4,439	- 4,458	
<b>Net Total</b>	<b>17,289</b>	<b>15,704</b>	<b>11,960</b>	<b>16,200</b>	<b>11,296</b>	<b>18,765</b>	<b>15,131</b>	<b>- 2.20</b>
Articles with 20% iron castings:								
Production***	925	1,949	3,882	2,530	2,901	3,741	4,594	
Importation	98,792	100,122	51,034	48,030	38,787	35,960	27,853	
(Exportation)	- 925	- 1,949	- 3,882	- 2,530	- 2,901	- 3,741	- 4,594	
<b>Net Total</b>	<b>98,792</b>	<b>100,122</b>	<b>51,034</b>	<b>48,030</b>	<b>38,787</b>	<b>35,960</b>	<b>27,853</b>	<b>- 19.02</b>
Grand Total of All Articles:								
Production	85,799	111,453	87,491	93,834	103,600	119,004	142,704	
Importation	116,081	115,826	62,994	64,230	50,083	54,725	42,984	
(Exportation)	- 7,805	- 4,216	- 8,519	- 7,317	- 10,650	- 8,180	- 9,052	
<b>Net Grand Total</b>	<b>194,075</b>	<b>223,063</b>	<b>141,966</b>	<b>150,747</b>	<b>143,033</b>	<b>165,549</b>	<b>176,636</b>	<b>- 1.56</b>

\* MIRDC statistical data gathered from industry and from NSO.

\*\* Domestic production of steel castings at an average cost of *US\$1,678 per tonne*.

\*\*\* Involves the production of machines, machinery, and equipment where the value of production is equal to the value exported.

Fig. 9. ANNUAL DOMESTIC CONSUMPTION OF STEEL CASTINGS, 1996-2002



## THE NON-FERROUS SECTOR

The Non-ferrous Sector is composed of 64 copper-base alloy foundries (21.6%) and 85 aluminum-base alloy foundries (28.8%), making this sub-sector the next biggest after the cast iron sector as it includes both sandcasters and diecasters.

Table 21. VALUE OF DOMESTIC CONSUMPTION OF BRONZE CASTINGS\*  
(In Thousands of USDollars)

ITEM	1996	1997	1998	1999	2000	2001	2002	%CGR
Articles with 100% cast bronze:								
Production** (\$4,387/tonne)	267,219	179,462	128,023	149,877	195,924	189,128	185,219	
Importation	0	0	0	0	0	0	0	
(Exportation)	0	0	0	0	0	0	0	
<b>Net Total</b>	<b>267,219</b>	<b>179,462</b>	<b>128,023</b>	<b>149,877</b>	<b>195,924</b>	<b>189,128</b>	<b>185,219</b>	<b>- 5.93</b>
Articles with 70% cast bronze:								
Production***	1,487	300	1,689	2,167	2,941	1,576	522	
Importation	676	458	391	2	234	221	154	
(Exportation)	- 1,487	- 300	- 1,689	- 2,167	- 2,941	- 1,576	- 522	
<b>Net Total</b>	<b>676</b>	<b>458</b>	<b>391</b>	<b>2</b>	<b>234</b>	<b>221</b>	<b>154</b>	<b>- 21.85</b>
Articles with 50% cast bronze:								
Production***	989	1,175	1,582	1,150	393	446	829	
Importation	15,726	20,440	19,917	16,040	12,372	12,620	8,929	
(Exportation)	- 989	- 1,175	- 1,582	- 1,150	- 393	- 446	- 829	
<b>Net Total</b>	<b>15,726</b>	<b>20,440</b>	<b>19,917</b>	<b>16,040</b>	<b>12,372</b>	<b>12,620</b>	<b>8,929</b>	<b>- 9.00</b>
Grand Total of All Articles:								
Production	269,695	180,937	131,294	153,194	199,258	191,150	186,570	
Importation	16,402	20,898	20,308	16,042	12,606	12,841	9,083	
(Exportation)	- 2,476	- 1,475	- 3,271	- 3,317	- 3,334	- 2,022	- 1,351	
<b>Net Grand Total</b>	<b>283,621</b>	<b>200,360</b>	<b>148,331</b>	<b>165,919</b>	<b>208,530</b>	<b>201,969</b>	<b>194,302</b>	<b>- 6.11</b>

\* MIRDC statistical data gathered industry and from NSO.

\*\* Domestic production of bronze castings at an average cost of US\$4,387 per tonne.

\*\*\* Involves the production of machines, machinery, and equipment where the value of production is equal to the value exported.

Table 22. VALUE OF DOMESTIC CONSUMPTION OF ALUMINUM CASTINGS\*  
(In Thousands of USDollars)

ITEM	1996	1997	1998	1999	2000	2001	2002	%CGR
Articles with 100% cast alum.:								
Production** (\$4,909/tonne)	1,486,493	1,494,009	919,731	1,031,211	790,601	669,222	575,918	
Importation	0	0	0	0	0	0	0	
(Exportation)	0	0	0	0	0	0	0	
<b>Net Total</b>	<b>1,486,493</b>	<b>1,494,009</b>	<b>919,731</b>	<b>1,031,211</b>	<b>790,601</b>	<b>669,222</b>	<b>575,918</b>	<b>- 14.62</b>
Articles with 80% cast alum.:								
Production***	5,646	8,145	13,443	10,282	533	5,864	144	
Importation	5,405	11,506	11,842	5,514	6,892	7,111	7,370	
(Exportation)	- 5,646	- 8,145	- 13,443	- 10,282	- 533	- 5,864	- 144	
<b>Net Total</b>	<b>5,405</b>	<b>11,506</b>	<b>11,842</b>	<b>5,514</b>	<b>6,892</b>	<b>7,111</b>	<b>7,370</b>	<b>5.30</b>
Articles with 60% cast alum.:								
Production***	1	1	1,169	0	0	0	1	
Importation	896	991	610	452	526	208	527	
(Exportation)	- 1	- 1	- 1,169	0	0	0	- 1	
<b>Net Total</b>	<b>896</b>	<b>991</b>	<b>610</b>	<b>452</b>	<b>526</b>	<b>208</b>	<b>527</b>	<b>- 8.47</b>
Grand Total of All Articles:								
Production	1,492,140	1,502,155	934,343	1,041,493	791,134	675,086	576,063	
Importation	6,301	12,497	12,452	5,966	7,418	7,319	7,897	
(Exportation)	- 5,647	- 8,146	- 14,612	- 10,282	- 533	- 5,864	- 145	
<b>Net Grand Total</b>	<b>1,492,794</b>	<b>1,506,506</b>	<b>932,183</b>	<b>1,037,177</b>	<b>798,019</b>	<b>676,541</b>	<b>583,815</b>	<b>- 14.48</b>

\* MIRDC statistical data gathered from industry and from NSO.

\*\* Domestic production of aluminum castings at an average cost of US\$4,909 per tonne.

\*\*\* Involves the production of machines, machinery, and equipment where the value of production is equal to the value exported.