

Industry Having Breathing Problems

Air contaminants and respiratory protection violations lead the list of the top-10 OSHA violations for metalcasting facilities.

The U.S. Occupational Safety and Health Administration (OSHA) has released a list of the top-10 most frequently cited safety and health violations for the metalcasting industry for fiscal year 2009.

Air contaminant violations (no testing, overexposures to silica, metals, etc.) was the first or second most common violation in iron, steel and copper casting facilities. Fines totaled \$21,411 for 39 citations against all casting facilities. Respiratory protection violations (no written program, not medically evaluated, worn over beards, not stored properly, maintained or cleaned) were among the top-three violations among all casting facilities, resulting in \$20,029 in fines for 54 citations. Lock-out tagout vio-

lations (no written program, improper isolating device, no annual inspection, employees not trained, machine not locked-out) resulted in \$23,713 fines for 32 citations (Table 1).

OSHA plans nearly 40,000 safety investigations annually and conducts unplanned investigations based on imminent hazards and employee complaints. Enforcement “remains the foundation for reducing workplace injuries, illnesses and fatalities,” according to Jordan Barab, acting OSHA administrator, and those investigations continue to be a principal enforcement tool for the agency. **MC**

For more information on the frequently cited violations, contact Stephanie Salmon, AFS Washington Office, 202/842-4864 or ss@wafed.com.

Table 1. Top-Three OSHA Standards Cited at Iron, Steel, Copper and Aluminum Casting Plants

| Standard | # Cited | # of Inspections | Penalty | Description |
|-----------------|---------|------------------|----------|--|
| IRON | | | | |
| 1910.1000 | 23 | 11 | \$9,186 | Air Contaminants |
| 1910.134 | 21 | 9 | \$5,989 | Respiratory Protection |
| 1910.147 | 16 | 8 | \$17,262 | Control of Hazardous Energy (lockout/tagout) |
| STEEL | | | | |
| 1910.1000 | 13 | 3 | \$8,350 | Air Contaminants |
| 1910.147 | 9 | 5 | \$3,588 | Control of Hazardous Energy (lockout/tagout) |
| 1910.134 | 8 | 5 | \$5,300 | Respiratory Protection |
| COPPER | | | | |
| 1910.1025 | 12 | 3 | \$3,020 | Lead |
| 1910.1000 | 6 | 2 | \$1,475 | Air Contaminants |
| 1910.134 | 5 | 2 | \$840 | Respiratory Protection |
| ALUMINUM | | | | |
| 1910.134 | 20 | 9 | \$7,900 | Respiratory Protection |
| 1910.132 | 10 | 9 | \$8,330 | Personal Protective Equipment General Requirements |
| 1910.212 | 19 | 9 | \$7,429 | Machine Guarding |

Note: For a full list of the top-10 OSHA violations, visit www.moderncasting.com.

On the Hill

Senate Committee Passes Climate Change Bill

The Senate Environment and Public Works Committee passed climate change legislation by an 11-1 vote on Nov. 5. Utilizing a cap and trade system, the bill would seek to reduce greenhouse gas emissions by 20% by 2020 from 2005 levels. The measure was approved despite a boycott by committee Republicans who wanted a more detailed cost analysis on the legislation from the U.S. Environmental Protection Agency before moving forward. Sen. Max Baucus (D-Mont.), the lone Democrat voting no, was concerned that the bill would disproportionately hurt western states that largely rely on coal-fired power plants for electricity.

At least five other Senate committees have jurisdiction over energy and climate change legislation; only the Environment and Public Works and Energy Committees have acted to date. With the Senate slated to consider health care and other year-end priorities, the full Senate may not consider comprehensive legislation until 2010. **MC**

H1N1 Sick-Leave Bill Introduced in Congress

With growing concerns over H1N1 flu, legislation requiring employers to provide up to five days of paid sick leave per year to workers afflicted with influenza or similar contagious illnesses has been introduced in the House of Representatives. The *Emergency Influenza Containment Act* would guarantee five paid sick days for part-time and full-time workers sent home with a contagious illness. Employers that already provide at least five days' paid sick leave and/or employ fewer than 15 would be exempt from the bill's requirements. The legislation would “sunset” after two years.

Earlier this year, lawmakers introduced the *Healthy Families Act*, which would require employers with 15 or more employees to provide up to seven paid sick days each year. The bill would provide for paid time off for an employee's or an employee's family member's physical or mental illness, injury, medical condition or preventive care. Paid sick leave measures are expected to be debated and voted on in 2010. **MC**



43rd Census of World Casting Production—2008

Global production dipped below 2007's volume, reflecting the worldwide recession that started in the final quarter of 2008.

A MODERN CASTING Staff Report

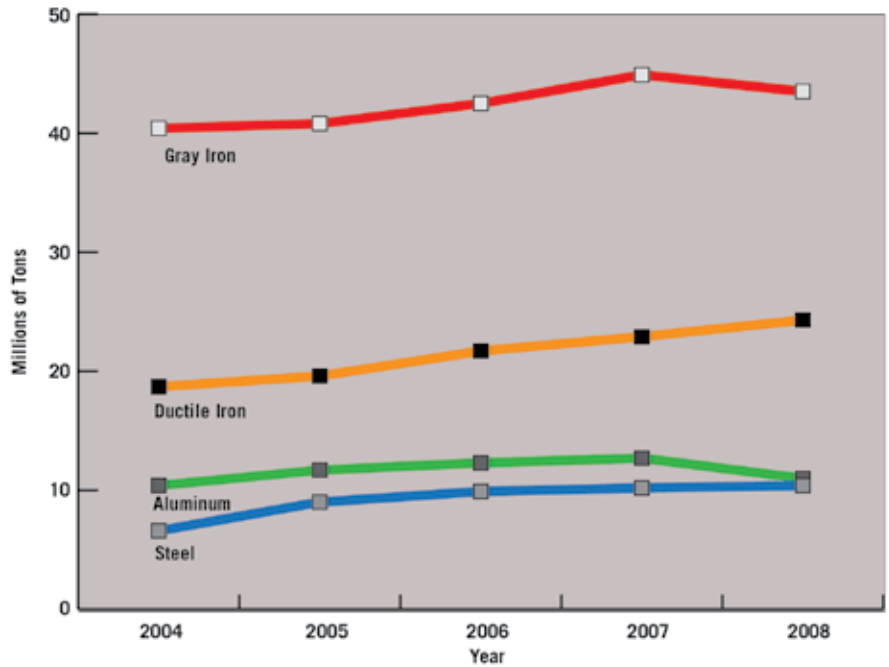
Global casting production in 2008 dipped below 2007's production, dropping 1.5% to 93.5 million metric tons from 94.9 million metric tons, according to this year's *MODERN CASTING* Census of World Casting Production.

Most countries reported that production numbers were growing or remaining steady through the first three quarters of 2008 but began to wane in the final few months as industries started to reflect the global recession. Of the 28 countries who participated in the production survey this year, 22 reported casting shipments had decreased from 2007, including major casting producing nations Japan, India and the U.S. It is the third year in a row the U.S. has reported a reduction of casting volume, and the second year in a row Japan's casting industry has contracted.

China's rate of growth slowed in 2008 to 7.1%, down from double digit percentage increases the prior two years. However, its growth still reflects the world's largest gain. At 33,500,000 tons produced, China now produces 36% of the total supply of castings worldwide. Brazil, Korea, Poland, Norway and Denmark made gains of 5% or less.

The reduction in casting shipments was reflected in the top 10 nations' average production per metalcasting plant. With the exception of Brazil and Korea, both of which increased tonnage shipped, the countries' production fell. Germany remains the most productive nation, producing 9,639 tons per metalcasting facility.

The data reported in the 43rd Annual Census of Casting Production are production numbers supplied by each nation's metalcasting association or similar representative. Countries that did not participate this year were Ukraine, Slovakia, South Africa, the Netherlands, and Russia. These countries remain listed according to the last year they participated.



Gray iron and aluminum casting production dipped worldwide in 2008, according to the annual census of casting nations.

Number of Operating Metalcasting Plants By Nation—2008 43rd Census of World Casting Production

| Country | Iron | Steel | Nonferrous | Total |
|---------------------------|--------|-------|------------|--------|
| Austria | 30 | 4 | 43 | 77 |
| Belgium | 16 | 7 | 10 | 33 |
| Brazil | 566 | 177 | 597 | 1,340 |
| Canada | 41 | 29 | 115 | 185 |
| China | 18,000 | 5,500 | 6,500 | 30,000 |
| Croatia | 15 | 3 | 23 | 41 |
| Czech Republic | 95 | 32 | 73 | 200 |
| Denmark | 7 | 0 | 10 | 17 |
| Finland | 9 | 6 | 16 | 31 |
| France | 107 | 37 | 335 | 479 |
| Germany | 201 | 53 | 346 | 600 |
| Hungary | 62 | 31 | 97 | 190 |
| India | | | | 4,700 |
| Italy | 180 | 27 | 960 | 1,167 |
| Japan | 458 | 75 | 1,169 | 1,702 |
| Korea | 508 | 142 | 223 | 873 |
| Mexico ^A | | | | 1,500 |
| Netherlands ^B | 16 | 0 | 5 | 21 |
| Norway | 7 | 3 | 10 | 20 |
| Poland ^C | 185 | 0 | 245 | 430 |
| Portugal | 47 | 6 | 39 | 92 |
| Romania | 59 | 43 | 74 | 176 |
| Russia ^C | | | | 1,650 |
| Slovenia | 15 | 5 | 58 | 78 |
| Slovakia ^A | 12 | 7 | 32 | 51 |
| South Africa ^A | 87 | 51 | 117 | 255 |
| Spain | 60 | 31 | 52 | 143 |
| Sweden | 34 | 14 | 83 | 131 |
| Switzerland | 17 | 3 | 43 | 63 |
| Taiwan ^C | 478 | 40 | 330 | 848 |
| Thailand ^A | 230 | 26 | 220 | 476 |
| Turkey | 741 | 72 | 433 | 1,246 |
| Ukraine ^D | 400 | 233 | 437 | 960 |
| United Kingdom | 193 | 46 | 236 | 475 |
| U.S. | 564 | 239 | 1,367 | 2,170 |

A)2006 data B)2004 data C)2007 data D)2002 data



Want to compare 2008's production to previous years? Visit www.moderncasting.com for past census results.

Census of World Casting Production—2008 (metric tons)

| Country | Gray Iron | Ductile Iron | Malleable Iron | Steel | Copper-Base | Aluminum | Mag. | Zinc | Other Nonfe | TOTAL |
|---------------------------|-------------------|----------------------|------------------|---------------------|------------------|------------------------|----------------|----------------|----------------------|-------------------|
| Austria | 48,400 | 153,000 ^A | na | 20,800 | na | 112,155 | 8,039 | 12,740 | na | 355,134 |
| Belgium | 61,100 | 8,900 ^A | na | 45,800 | na | na | na | 742 | na | 116,542 |
| Brazil | 1,589,886 | 677,611 | 509,596 | 323,818 | 19,888 | 224,966 | 6,005 | 3,462 | na | 3,355,232 |
| Canada | 458,850 | na | na | 111,720 | 17,656 | 268,090 | na | na | na | 856,316 |
| China | 16,400,000 | 8,200,000 | 500,000 | 4,600,000 | 600,000 | 3,000,000 ^B | na | na | 200,000 | 33,500,000 |
| Croatia | 29,528 | 21,849 | 27 | 2,517 | 465 | 16,715 | na | 420 | 927 ^C | 72,448 |
| Czech Republic | 252,964 | 52,150 | 11,644 | 97,863 | 2,662 | 114,973 ^B | na | 4,101 | 432 | 536,789 |
| Denmark | 32,367 | 48,020 | na | na | 1,433 | na | na | 6 | 5,778 ^P | 87,604 |
| Finland | 42,852 | 77,423 | na | 20,371 | 4,589 | 7,406 | na | 247 | na | 152,888 |
| France | 861,488 | 1,089,555 | na | 109,642 | 24,685 | 274,902 | na | 24,518 | 3,248 | 2,388,038 |
| Germany | 2,677,674 | 1,846,793 | 40,838 | 220,132 | 94,588 | 802,202 | 31,532 | 67,908 | 2,024 | 5,783,691 |
| Hungary | 31,133 | 15,750 | 16 | 7,638 | 1,407 | 90,342 | 46 | 2,950 | 490 | 149,772 |
| India | 4,532,000 | 785,000 | 60,500 | 916,000 | na | na | na | na | 547,000 ^E | 6,840,500 |
| Italy | 915,811 | 646,778 ^A | na | 93,122 | 81,000 | 820,000 | 10,000 | 70,000 | 1,300 | 2,638,011 |
| Japan | 2,753,476 | 1,995,349 | 48,082 | 298,720 | 98,782 | 414,002 | 9,268 | 30,207 | 5,912 | 5,653,798 |
| Korea | 1,010,500 | 595,700 | 40,300 | 152,000 | 24,100 | 232,500 | na | na | 10,800 ^{BF} | 2,065,900 |
| Mexico | 801,210 | 59,740 | na | 77,650 | 202,407 | 680,958 | 171 | 1,264 | 4,295 | 1,827,665 |
| Netherlands ^G | 78,241 | 6,209 | 438 | na | na | na | na | na | na | 84,888 |
| Norway | 19,115 | 55,639 | na | 3,255 | 4,517 | 13,466 | na | na | 17,983 | 113,975 |
| Poland | 513,800 | 167,100 ^A | na | 3,300 | 8,200 | 236,800 ^B | na | 6,000 | 1,400 | 936,600 |
| Portugal | 22,324 | 57,305 | na | 7,859 | 11,400 | 19,800 | na | 500 | 60 | 119,249 |
| Romania | 46,718 | 4,574 | 836 | 31,596 | 3,509 | 33,651 | 2,500 | 558 | 4 | 123,946 |
| Russia ^H | 3,320,000 | 1,800,000 | 180,000 | 1,300,000 | 200,000 | 840,000 | 80,000 | 30,000 | 50,000 | 7,800,000 |
| Slovenia | 76,820 | 33,353 | na | 38,114 ^B | na | 26,472 | na | na | 7,645 | 182,404 |
| Slovakia ^I | 8,760 | na | 4,300 | 2,160 | 2,160 | 26,260 | na | 1,800 | 5 | 45,445 |
| Spain | 493,600 | 641,400 ^A | na | 86,600 | 9,472 | 115,155 | na | 11,674 | 1,212 | 1,359,113 |
| South Africa ^J | 14,700 | 86,000 | na | 184,000 | 3,000 | 77,000 | na | 4,000 | na | 368,700 |
| Sweden | 170,700 | 66,300 | na | 22,000 | 12,500 | 43,300 | 2,000 | 5,400 | na | 322,200 |
| Switzerland | 28,000 | 49,800 ^A | na | 2,421 | 2,315 | 21,919 ^B | na | 1,696 | na | 106,151 |
| Taiwan | 780,175 | 211,052 | na | 77,945 | 35,588 | 309,503 | 5,845 | 63,968 | 2,934 | 1,487,010 |
| Thailand ^L | 70,000 | 30,000 | 30,000 | 28,600 | 28,600 | 100,000 | na | 16,900 | na | 304,100 |
| Turkey | 565,000 | 400,000 | 5,000 | 140,000 | 16,000 | 122,080 | na | 17,000 | na | 1,265,080 |
| Ukraine ^K | 626,610 | 40,000 | 10,000 | 266,060 | 11,000 | 20,500 | na | na | na | 974,170 |
| United Kingdom | 192,000 | 215,000 | 3,200 | 72,000 | 12,000 | 110,000 | 3,500 | 9,500 | 1,000 | 618,200 |
| United States | 3,502,640 | 3,597,894 | 60,000 | 1,172,082 | 274,877 | 1,739,980 | 109,769 | 273,970 | 52,617 | 10,783,829 |
| TOTALS | 42,958,542 | 23,841,444 | 1,504,777 | 10,538,385 | 1,808,580 | 10,932,434 | 268,675 | 664,136 | 916,997 | 93,449,270 |

A) includes malleable iron B) includes mg C) lead castings D) mostly aluminum E) all nonferrous F) includes zinc G) 2004 data
H) 2007 data I) 2005 data J) 2006 data K) 2002 data

Top 10 Casting Producers

| | |
|-----------------|-------------------------------|
| 1. China | 33.5 million tons |
| | Gray iron 16.4 million tons |
| | Ductile iron 8.2 million tons |
| | Steel 4.6 million tons |
| | Nonferrous 3.8 million tons |

| | |
|----------------|-------------------------------|
| 2. U.S. | 10.8 million tons |
| | Gray iron 3.5 million tons |
| | Ductile iron 3.6 million tons |
| | Steel 1.2 million tons |
| | Nonferrous 2.5 million tons |

| | |
|-------------------|-------------------------------|
| 3. Russia* | 7.8 million tons |
| | Gray iron 3.3 million tons |
| | Ductile iron 1.8 million tons |
| | Steel 1.3 million tons |
| | Nonferrous 1.2 million tons |

| | |
|-----------------|----------------------------|
| 4. India | 6.8 million tons |
| | Gray iron 4.5 million tons |
| | Ductile iron 790,000 tons |
| | Steel 910 million tons |
| | Nonferrous 550,000 tons |

| | |
|-------------------|-------------------------------|
| 5. Germany | 5.8 million tons |
| | Gray iron 2.7 million tons |
| | Ductile iron 1.8 million tons |
| | Steel 220,000 tons |
| | Nonferrous 900,000 tons |

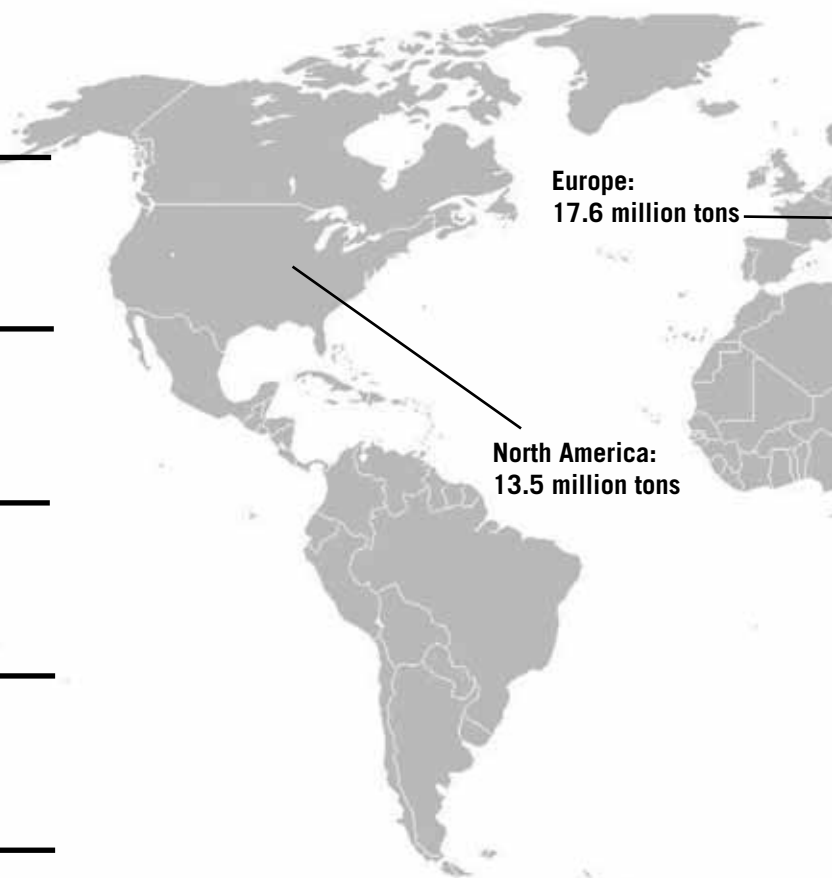
| | |
|-----------------|-----------------------------|
| 6. Japan | 5.7 million tons |
| | Gray iron 2.8 million tons |
| | Ductile iron 2 million tons |
| | Steel 300,000 tons |
| | Nonferrous 560,000 tons |

| | |
|------------------|----------------------------|
| 7. Brazil | 3.4 million tons |
| | Gray iron 1.6 million tons |
| | Ductile iron 680,000 tons |
| | Steel 320,000 tons |
| | Nonferrous 250,000 tons |

| | |
|-----------------|---------------------------|
| 8. Italy | 2.6 million tons |
| | Gray iron 920,000 tons |
| | Ductile iron 650,000 tons |
| | Steel 90,000 tons |
| | Nonferrous 980,000 tons |

| | |
|------------------|-------------------------------|
| 9. France | 2.4 million tons |
| | Gray iron 860,000 tons |
| | Ductile iron 1.1 million tons |
| | Steel 110,000 tons |
| | Nonferrous 330,000 tons |

| | |
|------------------|---------------------------|
| 10. Korea | 2.1 million tons |
| | Gray iron 1 million tons |
| | Ductile iron 600,000 tons |
| | Steel 150,000 tons |
| | Nonferrous 270,000 tons |



Europe:
17.6 million tons

North America:
13.5 million tons

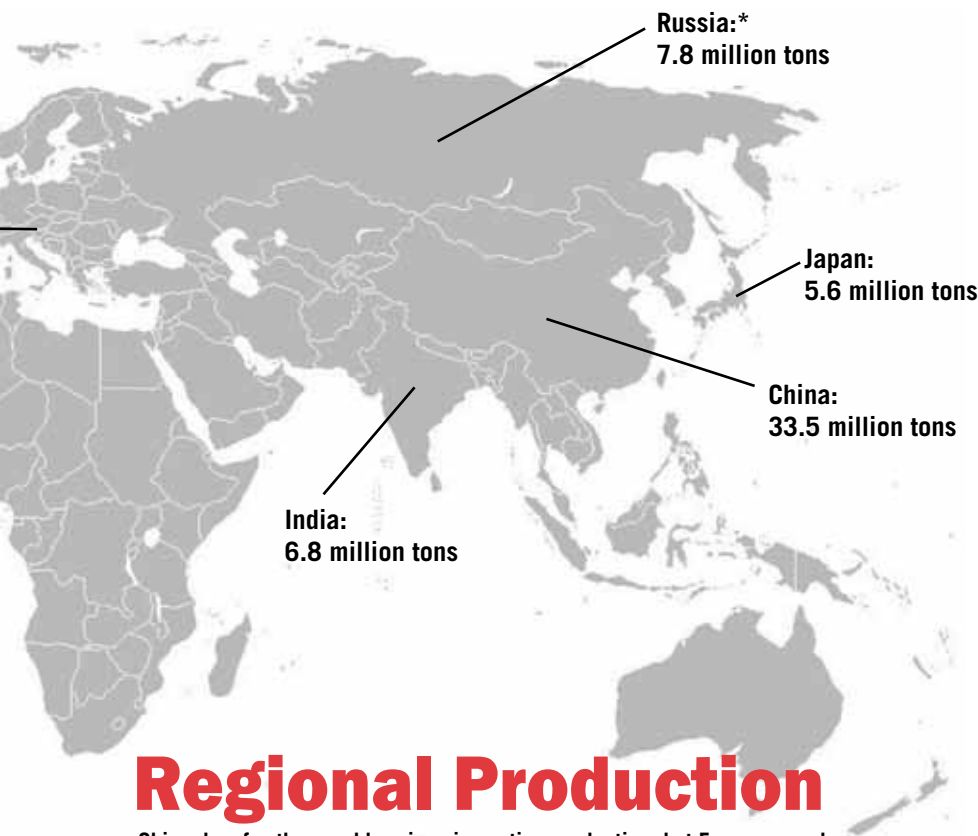
Without China

China's production makes up 36% of the total global casting production, which can skew the global outlook. Below are the global casting tonnages over the last five years without China.



| | Million Tons Produced | Percent Change Without China | Percent Change With China |
|------|-----------------------|------------------------------|---------------------------|
| 2004 | 57.32 | +3.5 | +8.4 |
| 2005 | 61.32 | +7 | +7.5 |
| 2006 | 63.27 | +3.2 | +7.2 |
| 2007 | 63.65 | +0.6 | +4 |
| 2008 | 59.95 | -5.8 | -1.5 |

*Production total for Russia based on 2007 numbers.

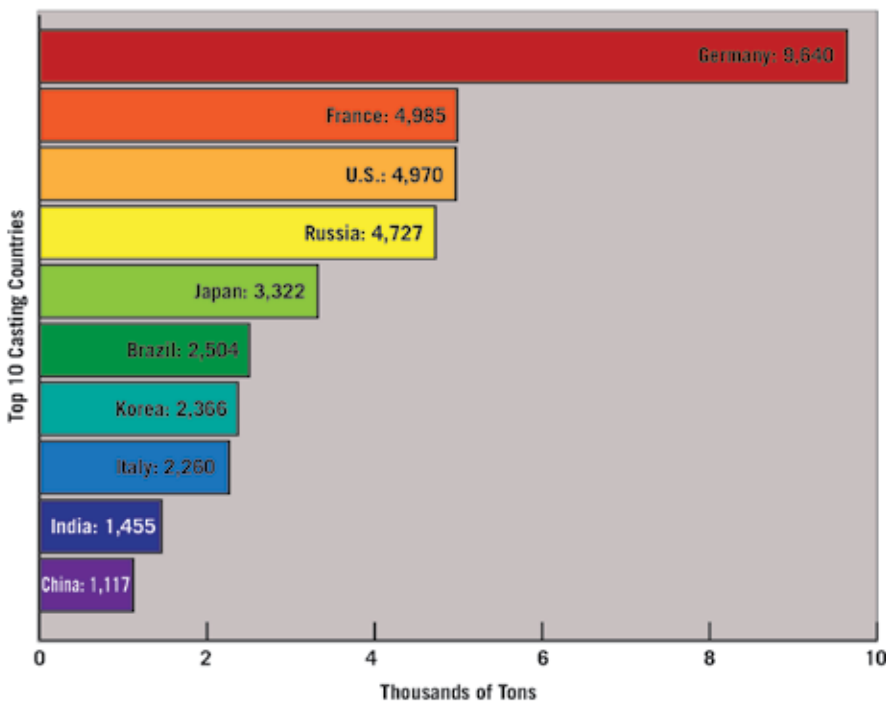


Regional Production

China dwarfs other world regions in casting production, but European and North American production are fairly comparable to each other.

**Production total for Russia based on 2007 numbers.*

Production Per Plant



Illustrated above are the top-10 nations' average productivity per metalcasting plant in 2008. Germany continues to be the most efficient country according to this formula. Only eight of the top-10 nations improved productivity in 2008.

Ahead of the Curve

The majority of the world's casting producing nations saw production volumes decrease, but a handful made modest gains in 2008. Besides China, which grew 7%, below are other notable growing countries.

Brazil: This South American nation continues to make gains, growing 4% from 2007 to 2008 to 3.35 million tons.

Korea: Korea experienced its 10th consecutive growth year in 2008 with a 2.2% increase to 2.06 million tons. In the last five years, this Asian country has seen its aluminum casting production grow leaps and bounds, increasing from 78,000 tons in 2003 to 232,500 tons in 2008—an improvement of nearly 200%.

Poland: Its increase in casting production was slight at 1.6%, but it came in a year where the rest of Europe saw a combined decrease in production of 3.8%. Poland as a whole saw a gradual economic slowdown but still experienced relatively high economic growth (4.8% GDP growth).

Hit Hardest

Some countries felt the pinch of the beginnings of the worldwide recession more than others.

Japan: In 2006, Japan produced 7.9 million tons of castings, a 19.9% increase from 2005, but that gain is gone after two years of double-digit percent decreases. Of the top-10 countries, Japan's production shrank the most, reaching 5.6 million tons in 2008, an 18.8% decrease from 2007. It has dropped behind India and Germany in rankings.

India: This country has been the fastest growing large casting producing nation in the last five years, but 2008 proved to hold a yield sign. Casting production dropped from 7.8 million tons in 2007 to 6.8 million tons in 2008.

U.S.: An 8.8% decrease in casting tonnage is the third largest percentage loss of the top-10 casting countries. The U.S., which produced 11.8 million tons in 2007, shipped 10.8 million tons in 2008. It remains the second-largest casting producing nation. **MC**