



# **Australasian (iron and steel) Slag Association Inc.**

## **Membership Annual Survey Results**

### **January to December 2010**

Prepared by  
HBM Group Pty Ltd

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The Australasian (iron & steel) Slag Association (ASA) conducts an annual survey for information regarding iron & steel slag (ISS) production and value added sold quantities by members and non-members for each calendar year. This report compiled during 2011 provides results for the 2010 calendar year.

Information provided by members and non-members is reviewed, compared, collated and aggregated into a national set of results and include ISS production levels, and nominated uses for all slag products.

For the calendar period January to December 2010, there was a significant reduction to total ISS production of approximately 800,000 tonnes. From this decreased volume of ISS production, approximately 2.34 or 88% percent of 2.67 million tonnes (Mt) of ISS produced was effectively utilised within various value added civil and construction material applications throughout Australasia.

The survey results include all generators, (iron & steel plants) marketers, (processing and marketing companies) and users for the total production and resulting sales by each end use. Where required, data is supplemented with importation data<sup>1</sup> and other secondary data<sup>2</sup> sources for accuracy purposes.

The key results for the calendar period 2010 survey were:

- Approximately 2.674 Mt (million tonnes) of iron and steel slag products were produced within Australasia (Australia and New Zealand).
- From the ISS produced, some 2.34 Mt or 88 percent has been effectively utilised [sold or reused for some beneficial use]
- On per capita basis, this equates to 110 kgs per person recycled or reused
- 33 percent or 0.871 Mt was used in cementitious applications - "high value add" [HVA]<sup>3</sup> Note: approx 0.416 Mt of GBFS was imported
- 46 percent or 1.241 Mt was used in non-cementitious or road construction applications - medium value add [MVA]<sup>4</sup>
- 8 percent or 0.234 Mt was in general civil or fill applications – low value add [LVA]<sup>5</sup>

In summary the recovery and reuse of ISS continues to provide significant positive environmental impacts, including resource conservation and in this case, the reduction of greenhouse gas emissions from the processing of virgin resources.

The following table provides more detail for individual category sales of ISS for the period 2010 with comparisons against 2009 and 2008.

<sup>1</sup> ABS [Austats] based on import tariff code for Granulated Blast Furnace Slag (GBFS)

<sup>2</sup> Company annual reports and other published data sources

<sup>3</sup> HVA – High Value Add – means where ISS materials are sold for > (more than) \$100/tonne

<sup>4</sup> MVA – Medium Value Add – means where ISS materials are sold for between \$10-\$100/tonne

<sup>5</sup> LVA – Low Value Add – means where ISS materials are sold for < (less than) \$10/tonne

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Australasian (iron & steel) Slag Association									
2010 Slag Sales and Production Survey									
SECTION A Slag Beneficial Use Calculations (mt)	BFS	GBFS	SFS	EAFS	KOBM	Other	2010 Combined	2009 Combined	2008 Combined
A1. Total Produced in 2010 (Jan-Dec)	1,229,233	450,000	656,210	193,418	50,000	270,151	2,849,012	3,325,329	3,406,322
A2. Total Production not used in 2010 [Stored]	230,000	0	110,038	0	46,242	84,192	470,472	843,438	695,766
A3. Total Removed from Storage during 2010	0	0	0	78,436	0	217,378	295,814	0	0
<b>SECTION B Auto Calculations</b>							<b>Combined</b>	<b>Combined</b>	<b>Combined</b>
B2. Total Used in 2010 (Auto calc)	999,233	450,000	546,172	271,855	3,758	403,337	2,674,354	3,414,107	3,406,322
<b>SECTION C Slag Use (mt)</b>	<b>BFS</b>	<b>GBFS</b>	<b>SFS</b>	<b>EAFS</b>	<b>KOBM</b>	<b>Other</b>	<b>Combined</b>	<b>Combined</b>	<b>Combined</b>
C1. Cement or Binder products	0	871,394	0	0	0	0	871,394	561,529	671,153
C2. Feed stock for Clinker/Glass products	16,778	0	0	0	0	0	16,778	57,270	65,547
C2. Grit Blasting products	0	0	0	0	0	0	0	0	0
C2. Structural Fills/Embankments	0	0	0	0	0	22,119	22,119	388,443	14,443
C2. Road Base/Sub-base	71,804	10,627	169,349	58,491	0	95,367	405,636	522,967	604,421
C2. Rockwool products	2,374	0	0	392	0	0	2,766	2,000	11,719
C2. Mineral Fillers (e.g Asphalt)	0	6,187	0	0	0	22,012	28,199	38,730	31,182
C2. Agricultural applications	0	0	0	0	0	0	0	611	611
C2. Water treatment/filtration products	0	0	0	0	0	29,205	29,205	25,643	25,793
C2. Asphalt & Concrete Aggregates	600,292	0	102,307	0	0	7,416	710,014	677,585	887,092
C3. Mining Applications	0	22,484	0	0	0	0	22,484	53,384	35,493
C3. Waste Stabilisation/Solidification	0	0	0	0	3,758	0	3,758	7,137	7,137
C3. Miscellaneous/Other	48,434	36,046	133,919	5,040	3,198	7,460	234,097	235,370	355,965
<b>SECTION D Summary Results</b>	<b>BFS</b>	<b>GBFS</b>	<b>SFS</b>	<b>EAFS</b>	<b>KOBM</b>	<b>Other</b>	<b>Combined</b>	<b>Combined</b>	<b>Combined</b>
D1. Total of all sold in 2010 (Auto calc)	739,681	946,738	405,575	63,922	6,956	183,579	2,346,451	2,570,669	2,710,556

Table 1 - 2010 Slag Sales and Production Survey

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Sept 2011