

DEMAND FORECAST FOR ALUMINIUM SEMI-FABRICATED PRODUCTS IN JAPAN FOR FISCAL 2009

1. Review of FY2008 (April 2008- March 2009)

The financial crisis which occurred in US in autumn 2008 affected all over the world and caused serious economic turmoil. Japanese aluminium industry also couldn't avoid that impact, and has been suffering in sharp decline of demands in every market segment.

In fiscal 2008, demand for aluminium semi-fabricated products (including exports) in Japan is estimated to decrease 2 years in row to 2,025,000 tons, down 12% from that of FY 2007¹.

Among rolled products, demands of automotive industry, electrical & general machineries, wholesale & retail will plummet due to the global recession. And to makes matters worse, exports of those segments also should drop dramatically. Thus, total Japanese demand of rolled products in FY2008 is forecast to fall by 9.8 % to 1,224,000 tons from the previous year.

And total demand of extrusions is estimated to drop by 15.2% to 802,000 tons in FY2008 year to year. Major segment 'Construction & Building' will continue to fall. In addition, demand from automotive makers also has diminished in the second half of FY2008.

As for foils, demand of those predominant outlets, demand for condenser foil has extremely fallen. And also, demands for food and commodity foil products and those of export are estimated to decrease seriously. Therefore, total foil demand in FY2008 is forecast to decrease by 17% to 113,000 tons from a year ago.

2. Outlook for FY2009 (April 2009- March 2010)

Considering the global economic turmoil, JAA prepared FY 2009 outlook by incorporating some factors such as deep impact of global financial crisis, forecast of the end of inventory adjustment and the range of declining demand in accordance with every aluminium semi-fabricated product segments.

In fiscal 2009, total demand for aluminium semi-fabricated products is forecast to decline by 11% to 1,800,000 tons, compared with that for FY2008².

Among 'Rolled products', demand for can stock is relatively strong and its decline is slight in spite

¹ The historical highest demand was 2,529,000 ton in FY 1996. And it is the first time to fall below the level of 2,100,000 tons since FY 1988 (2,038,000 tons).

² It is the first time to run behind the level of 1,900,000 tons from FY 1986 (1,746,000 tons)

of the recession. Regarding other leading demands; auto industry and electrical machineries inventory adjustments are forecast to be finished by the end of Q1 and then the demand will resuscitate. On the other hand, inventory curtailments for ‘General machinery’ and ‘Wholesales & retails’ segment’ are predicted to drag on. And exports of rolled products are estimated to fall sharply due to yen appreciation as well. Thus, total demand for rolled products in FY 2009 is anticipated to decrease by 13% from a year ago.

As for ‘Extrusions’, its total demands is forecast to decline by 8% in FY2009 from the previous year, since inventory adjustment of automotive industry will end in Q1 and that segment demand is predicted to be improving thereafter. And demand for construction market is estimated to diminish as well since the number of new construction should stay in low level.

In fiscal 2009, total demand of ‘Foil’ will decrease by 15% compared with FY2008. Because those demands from condenser foil, food and daily necessities segment appear to be weak and exports are forecast to fall seriously.

Demand forecast for aluminium semi-fabricated products in FY2009

(Unit: thousand tons)

	FY2007 (actual)	FY2008 (estimated)	08/07	FY2009 (forecast)	09/08
Rolled Products	1,356	1,224	▲9.8	1,066	▲12.9
Extrusions	945	802	▲15.2	735	▲8.4
Total	2,301	2,025	▲12.0	1,800	▲11.1
Foil	137	113	▲17.4	96	▲15.4

The details of FY2008 review and FY2009 outlook are as follows.

3. Rolled Products

3.1. Food Market

In fiscal 2008, demand for can stock is estimated to decline by 2%. The slight decline comparing with other market segment is due to demand of beverage can has relatively been stable, although consumer spending has been in downward due to the recent depressed economy.

In fiscal 2009, the weak demand will continue as well. In addition, lightweighting and downsizing in can stock segment will further occur and total shipment weight will decrease eventually. It is fortunate that growing demand of the third-category beer³ is expected to boost shrinking demand tendency in can stock segment. As a result, we can say that the decline of can stock demand will be confined by 2% in FY2009 from the previous year. Over all demand for food market including

³ The third-category beer is a new kind of alcoholic beverages and it has been popular due to the cheap price than beer.

other products is estimated to drop by 3% in FY2009, compared with the previous year.

3.2. Fabricated Metal Market

In fiscal 2008, aluminium foil demand is expected to decrease by 2 digit level (see item 5 in details). Demand for Litho plate, which dominates 3/4 of demand of 'Others' in fabricated metal market, also is estimated to shrink from last autumn. Therefore, total demand of fabricated metal market is forecast to drop by 14% in FY2008 year to year.

In fiscal 2009, we expect litho plate market will recover in the second half of the year. Total demand for this segment is predicted to fall by 11% from a year ago.

3.3. Electrical Machinery Market

Demand of fin stock for household segment has continued to decline from last fall. And also, demand of digital home appliances has been reduced extremely due to recession. Therefore, total demand of this segment in FY 2008 is estimated to decrease by 13% from the previous year.

In FY2009, we are afraid that the downward trend in the demand for fin stock will continue as consumers hesitate renew their air conditioners due to the recession and they prefer buying cheaper imported air conditioners to expensive local air conditioners. And inventory curtailment of digital home appliances will be terminated until the end of Q1 and demand will improve after that. Thus, the total demand for electrical machinery market in FY2009 is estimated to fall by 11% compared with FY2008.

3.4. Transportation Market

In FY 2008, aluminium demand for auto will decrease by 20% due to enormous reduction for auto industry from last autumn. In addition, demands for other transportation markets except rolling stock drop significantly. Thus, over all demand for transportation segment in FY2008 will decrease by 11% year to year.

In Fiscal 2009, inventory adjustment of automotive aluminium sheets is expected to finish in Q1 and the demand will recover thereafter. So, demand from auto industry is estimated to decrease by 12% from a year ago. And demands from other transportation machineries except for rolling stocks are estimated to fall sharply the same as FY2008. Thus, total demand of this segment is forecast to decline by 14% in FY2009 from a year ago.

4. Extrusions

4.1. Transportation Market

In fiscal 2008, aluminium extrusion demand of transportation market is estimated to decrease by 22% compared with the previous year affected by big production cut in automotive industry similar to rolled product.

In FY2009, total demand in this segment including auto is forecast to decrease by 12% year to year.

4.2. Construction Market

New housing starts in FY 2008 have been struggling. To makes matters worse, consumer spending have kept shrinking and the number of business office & plant construction have continued to decline due to suspending of equipment investment from enterprises. Thus, overall demand for this market in FY 2008 is forecast to drop by 12% year to year.

In fiscal 2009, tendency of slow demand will remain unchanged, but the dropping range is anticipated to be eased due to the effect of reduction of housing-loan tax by the Japanese government. Therefore, total demand in this segment is forecast to decrease by 5% in FY2009 from a year ago.

5. Foil

5.1. Food Market

Total foil demand for food market is predicted to decline by 5% in FY2008 from a year ago. Because consumer spending have reduced due to the recession from last autumn.

In fiscal 2009, the declining tendency will remain unchanged, total demand for this segment is estimated to decrease by 5% year to year.

5.2. Chemical Market

In FY 2008, foil demand for chemical market' is predicted to grow 2%. Since demand for 'Medicine' has grown for 'Generic drug' products.

Although the growing trend of generic drug will be stable in FY2009 as well, sales of other goods are anticipated to be reduced due to the recession. Overall demand of chemical market will be more or less the same as that of FY2008.

5.3. Commodity Market

Demand for household foil has kept declining in Japan due to the growing trend of import foil. What's more, consumer spending has also dropped because of global recession since last fall. So, total foil demand in this segment is forecast to drop by 19% in FY 2008 year to year.

In fiscal 2009, demand in this segment is expected to be the same as that of FY2008. Total demand in commodity market is forecast to be reduced by 10% from the previous year.

5.4. Electrical appliance Market

In fiscal 2008, the foil demand for this segment is expected to decrease by 25% from a year ago, because condenser foil demand, which dominate 70% of this market, has dropped suddenly due to the fluctuation of condenser demand.

In FY2009, inventory curtailment of condenser foil will complete at the end of Q1, and then demand will recover. Total demand in this segment is estimated to reduce by 25% from a year ago.

**FORECAST OF DEMAND FOR ALUMINIUM SEME-FABRICATED PRODUCTS
IN FISCAL YEAR 2009**

Japan Aluminium Association

Total semi-fabricated Products

(Unit: thousand tons, %)

Markets		FY2007 Actual	FY2008 Estimated	FY2009 Forecast	08/07	09/08
Foods	Can stock	422,950	416,192	406,000	▲1.6	▲2.4
	Others	17,847	16,821	15,900	▲5.7	▲5.5
	Sub-total	440,797	433,013	421,900	▲1.8	▲2.6
Chemical	Chemical	1,422	998	850	▲29.8	▲14.8
Fabricated Metals	Foil stock	153,382	124,973	108,000	▲18.5	▲13.6
	Others	126,124	118,782	111,250	▲5.8	▲6.3
	Sub-total	279,506	243,755	219,250	▲12.8	▲10.1
Elect. Machinery	Household	58,691	53,493	47,700	▲8.9	▲10.8
	Other uses	79,637	73,977	65,400	▲7.1	▲11.6
	Sub-total	138,328	127,470	113,100	▲7.8	▲11.3
Transport	Automobile	330,048	257,240	224,150	▲22.1	▲12.9
	Rail, Air	46,393	37,880	31,400	▲18.3	▲17.1
	Sub-total	376,441	295,120	255,550	▲21.6	▲13.4
Precision machinery		12,749	11,726	11,350	▲8.0	▲3.2
General machinery		109,491	77,227	59,600	▲29.5	▲22.8
Building/ const.	Sash, doors	447,608	380,647	356,800	▲15.0	▲6.3
	Fixtures	151,162	149,548	139,600	▲1.1	▲6.7
	Sub-total	598,770	530,195	496,400	▲11.5	▲6.4
Others		127,200	114,014	93,100	▲10.4	▲18.3
Domestic Shipment		2,084,704	1,833,518	1,671,100	▲12.0	▲8.9
Exports		216,446	191,962	129,000	▲11.3	▲32.8
Total shipments		2,301,150	2,025,480	1,800,100	▲12.0	▲11.1

**FORECAST OF DEMAND FOR ALUMINIUM SEME-FABRICATED PRODUCTS
IN FISCAL YEAR 2009**

Japan Aluminium Association

Rolled Products

(Unit: thousand tons, %)

Markets		FY2007 Actual	FY2008 Estimated	FY2009 Forecast	08/07	09/08
Foods	Can stock	422,950	416,192	406,000	▲1.6	▲2.4
	Others	16,768	15,834	15,050	▲5.6	▲5.0
	Sub-total	439,718	432,026	421,050	▲1.7	▲2.5
Chemical	Chemical	1,037	736	650	▲29.0	▲11.7
Fabricated Metals	Foil stock	153,382	124,973	108,000	▲18.5	▲13.6
	Others	99,853	93,361	87,200	▲6.5	▲6.6
	Sub-total	253,235	218,334	195,200	▲13.8	▲10.6
Elect. Machinery	Household	51,041	46,223	41,100	▲9.4	▲11.1
	Other uses	58,599	49,051	43,400	▲16.3	▲11.5
	Sub-total	109,640	95,274	84,500	▲13.1	▲11.3
Transport	Automobile	168,914	134,777	118,000	▲20.2	▲12.5
	Rail, Air	32,067	23,886	17,950	▲25.5	▲24.9
	Sub-total	200,981	158,663	135,950	▲21.1	▲14.3
Precision machinery		674	879	750	30.4	▲14.7
General machinery		30,013	28,484	21,600	▲5.1	▲24.2
Building/ const.	Sash, doors	3,199	3,604	2,300	12.7	▲36.2
	Fixtures	43,751	38,064	32,100	▲13.0	▲15.7
	Sub-total	46,950	41,668	34,400	▲11.3	▲17.4
Others		68,570	64,867	51,450	▲5.4	▲20.7
Domestic Shipment		1,150,818	1,040,931	945,550	▲9.5	▲9.2
Exports		205,065	182,679	120,000	▲10.9	▲34.3
Total shipments		1,355,883	1,223,610	1,065,550	▲9.8	▲12.9

FORECAST OF DEMAND FOR ALUMINIUM SEME-FABRICATED PRODUCTS
IN FISCAL YEAR 2009

Japan Aluminium Association

Extruded Products

(Unit: thousand tons, %)

Markets		FY2007 Actual	FY2008 Estimated	FY2009 Forecast	08/07	09/08
Foods	Can stock	—	—	—	—	—
	Others	1,079	987	850	▲8.5	▲13.9
	Sub-total	1,079	987	850	▲8.5	▲13.9
Chemical	Chemical	385	262	200	▲31.9	▲23.7
Fabricated Metals	Foil stock	—	—	—	—	—
	Others	26,271	25,421	24,050	▲3.2	▲5.4
	Sub-total	26,271	25,421	24,050	▲3.2	▲5.4
Elect. Machinery	Household	7,650	7,270	6,600	▲5.0	▲9.2
	Other uses	21,038	24,926	22,000	18.5	▲11.7
	Sub-total	28,688	32,196	28,600	12.2	▲11.2
Transport	Automobile	161,134	122,463	106,150	▲24.0	▲13.3
	Rail, Air	14,326	13,994	13,450	▲2.3	▲3.9
	Sub-total	175,460	136,457	119,600	▲22.2	▲12.4
Precision machinery		12,075	10,847	10,600	▲10.2	▲2.3
General machinery		79,478	48,743	38,000	▲38.7	▲22.0
Building/ const.	Sash, doors	444,409	377,043	354,500	▲15.2	▲6.0
	Fixtures	107,411	111,484	107,500	3.8	▲3.6
	Sub-total	551,820	488,527	462,000	▲11.5	▲5.4
Others		58,630	49,147	41,650	▲16.2	▲15.3
Domestic Shipment		933,886	792,587	725,550	▲15.1	▲8.5
Exports		11,381	9,283	9,000	▲18.4	▲3.0
Total shipments		945,267	801,870	734,550	▲15.2	▲8.4

DEMAND FORECAST FOR ALUMINIUM PRODUCTS IN JAPAN FOR FISCAL 2009 (April 2009 - March 2010)

1. Foreword

Aluminium Research Council consists of 7 aluminium associations in Japan released forecast for FY 2009. The forecast covers total demand of aluminium products compiling forecast of each association. The council members are Japan Aluminium Products Association, The Japanese Electric Wires & Cable makers' Association, Japan Aluminium Alloy Refiners Association, Japan Die Casting Association, Japan Sash Manufacture's Association, Japan Aluminum Can Recycling Association and JAA.

2. Review of FY2008

In fiscal 2008, total demand for aluminium products in Japan will decrease by 15% to 3,792,000 tons from a year ago⁴.

Among semi-fabricated products, demands for both rolled and extruded products (except exports) are estimated to decline by 12% year to year. The negative impact of financial tsunami has affected demand of every market segment since last fall. Demand for such as automotive, electrical machinery and wholesale & retail are expected to decline. In addition, the amount of new housing starts also remains weak.

Castings & die-castings are mainly supplied to automotive industry, however, the demand for automotives decreased considerably. In fiscal 2008, demand for castings is estimated to decrease by 19% and the same for die-castings is by 21% from the previous year.

And demand for other aluminium products (except wires) is estimated to remain flat or decline in FY2008.

3. Outlook for FY2009

Considering the global financial crisis, Aluminium Research Council incorporated the impact of the global financial crisis, forecast of the end of inventory and the range of declining demand on every segment of aluminium seme-fabricated products.

In Fiscal 2009, total demand for aluminium products is forecast to decline by 10% to 3,401,000 tons

⁴ The historical highest demand was 4,458,000 tons in FY 2006. And it is the first time to fall below the level of 3,800,000 tons since FY 1988 (3,766,000 tons).

from a year ago.⁵

Among the semi-fabricated products, inventory adjustments of automotive products and electrical machineries segments will be dragged to the end of Q1 and will recover after that. On the other hand, inventory curtailments for 'General machinery' and 'Wholesales & retails' segment' are predicted to drag on and demand for construction segment is expected to decline due to continuous doldrums of new housing starts. Thus, total demand for semi-fabricated products in FY 2009 will decrease by 9% from a year ago.

Concerning castings & die-castings, inventory curtailment of automotive industry will complete by the end of Q1. Therefore, both demands of castings & die-castings in FY2009 will reduce by 11% year to year.

And demand for other aluminium products is estimated to remain flat or decline.

4. Semi-fabricated products

4.1. Rolled products

In fiscal 2008, demand for can stock is estimated to decline slightly thanks to its stable demand in spite of the recession. Other rolled products demands for auto industry, electrical machineries, general machineries and whole sale & retail segments are predicted to decrease. Thus, total demand for rolled products in FY 2008 is estimated to decline by 10% from a year ago.

In FY2009, inventory adjustments of automotive parts and electrical machineries are expected to finish by the end of Q1 and recover afterwards. However, inventory curtailment of general machineries and whole sale & retail segment are likely to drag on. Therefore, demand for rolled products in FY2009 will reduce by 9% year to year.

4.2. Extrusions

Extrusions demand in FY2008 is estimated to drop by 15%. Since its demand from construction segment has declined continuously due to decreasing of new housing starts. And demand from auto industry also has fallen dramatically in the second half of FY2008.

In fiscal 2009, inventory adjustment of automotive segment will complete by the end of Q1 and then its demand will improve. And demand for construction is anticipated to decrease continuously but its declining range is expected to be smaller due to the housing tax reduction by the Japanese government. Thus, extrusions demand in FY2009 is forecast to fall by 9% from the previous year.

5. Castings & Die-casting

Ninety Percent of castings and eighty percent of die-castings are for automotive industry in Japan. And those demands have dropped dramatically since huge reduction in manufacturing of automotive makers caused by the recession from last autumn. Therefore, castings demand is estimated to decline by 19% and die-casting demand is predicted to drop by 21% in FY2008 year to

⁵ It is the first time to run behind the level of 3,500,000 tons from FY 1988 (3,388,000 tons)

year respectively.

In FY2009, inventory curtailment of auto parts will complete by the end of Q1 and its market demand is forecast to improve after that. Therefore, both castings and die-castings demands in FY2009 will decline by 11%, compared with FY2008.

6. Wires

Wires demand in FY 2008 is estimated to rise by 25% from a year ago due to increasing demand from power segment. On the contrary, demand of power market is expected to decline in FY2009. Therefore, wires demand in FY2009 is forecast to fall by 20% year to year.

7. Exports

Half of aluminium exports, which mainly semi-fabricated products, are destined for China and Southeast Asia markets.

In FY2008, aluminium exports are estimated to drop by 15% year to year due to huge exports decrease, especially semi-fabricated products, from last fall.

In FY2009, slow demand in export markets will remain unchanged. Therefore, aluminium exports in FY 2009 are forecast to decline by 32 % from the previous year.

**DEMAND FORECAST FOR ALUMINIUM PRODUCTS IN 2009
(April 2009 – March 2010)**

(Unit: 1,000 MT)

Markets	FY2007 Actual	FY2008 Estimated	FY2009 Forecast	08/07	09/08
Rolled products	1,151	1,041	946	▲9.6	▲9.1
(For auto)	(169)	(135)	(118)	(▲20.1)	(▲12.6)
Extruded products	934	793	726	▲15.1	▲8.4
(For auto)	(161)	(122)	(106)	(▲24.2)	(▲13.1)
Semis-Total	2,085	1,834	1,671	▲12.0	▲8.9
(For auto)	(330)	(257)	(224)	(▲22.1)	(▲12.8)
Castings	437	353	315	▲19.2	▲10.8
For auto	403	322	286	▲20.1	▲11.2
For others	34	31	29	▲8.8	▲6.5
Die-Castings	1,135	893	794	▲21.3	▲11.1
For auto	954	752	667	▲21.2	▲11.3
For others	181	141	127	▲22.1	▲9.9
C/DC total	1,572	1,246	1,109	▲20.7	▲11.0
Forgings	47	40	36	▲14.9	▲10.0
Electrical Wires	20	25	20	25.0	▲20.0
Steel Making	151	131	120	▲13.2	▲8.4
Powder	13	11	10	▲15.4	▲9.1
Others	52	52	52	0.0	0.0
Imports	249	240	237	▲3.6	▲1.3
Domestic demand	4,189	3,579	3,255	▲14.6	▲9.1
Exports	249	213	146	▲14.5	▲31.5
Total demand	4,438	3,792	3,401	▲14.5	▲10.3
Total automotive Aluminium shipped	1,721	1,359	1,202	▲21.0	▲11.6