

China Curtain Wall Cladding Materials Review

April 2014



Summary

• **China's Curtain Wall Market Overview**

- Total area of curtain walls was around 118 million sqm in 2013, accounting for only around 5.6% of the total area of exterior walls, however, this ratio is growing slightly
- Economically developed areas including Guangdong, Jiangsu, Tianjin, Zhejiang, Shanghai, Shandong, Beijing, Fujian and Liaoning, are the most potential provinces/municipalities in terms of total investment on projects with curtain walls

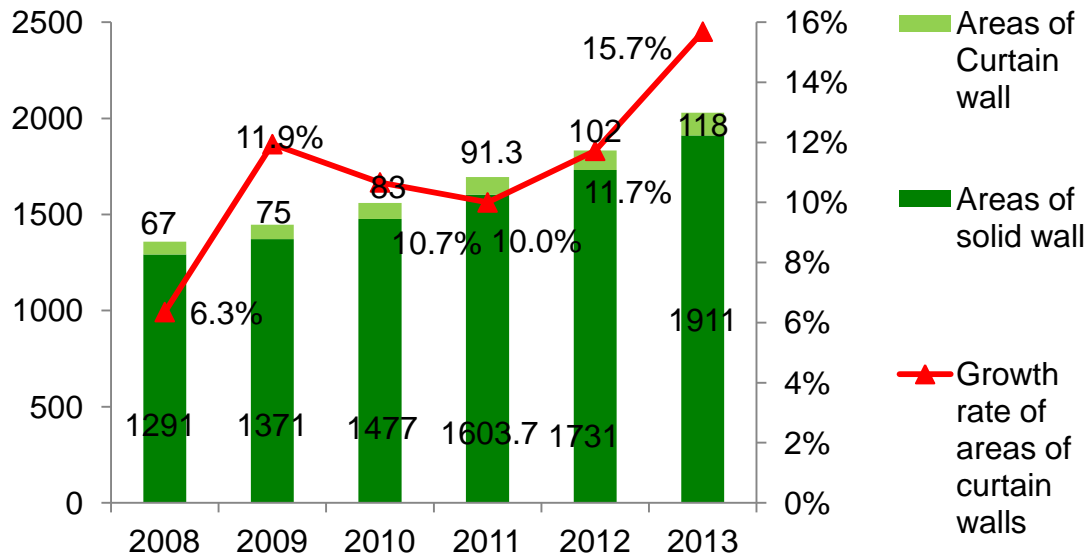
• **China's Curtain Wall Cladding Materials Market Overview**

- Office, hotel and housing segments are the top 3 markets for curtain wall materials, accounting for around 70% of the total consumption in 2013
- Good appearance, low cost and high fireproof performance enable stone, glass and aluminum being widely used as curtain wall cladding materials
- Glass curtain wall continues to be the main material for nearly all building types, being followed by stone
- In 2013, about 118 million sqm curtain wall cladding materials were applied, with glass and stone taking up around 87% of the total consumption, and the market size is projected to be 157 million sqm in 2016 with a CAGR of 10%

Source: PIM research and analysis, April, 2014

Total area of curtain walls was around 118 million sqm in 2013, and it only account for around 5.6% of the total area of exterior walls, however, this ratio is growing slightly

Areas of Curtain Walls* vs. Solid Walls^{1,2} (million sqm)**



- Areas of curtain walls account for only around 5% of the areas of total exterior walls. Most of exterior walls use coatings or cement mortar rather than plate materials as their cladding materials
- Data also shows that the ration of ACW/TAEW* is increasing smoothly, which indicates that increasingly more buildings will apply plate materials as their exterior cladding decoration materials

	2008	2009	2010	2011	2012	2013
ACW/TAEW***	4.9%	5.1%	5.3%	5.4%	5.6%	5.8%

Notes: * Curtain walls: Exterior walls that are decorated with plates, such as glass, stone, metal, composite plates, HPL plates etc.

** Solid walls: : Exterior walls that are decorated with coatings, paintings or no exterior cladding materials needed

***ACW/TAEW= Areas of Curtain Walls/ Total Areas of Exterior Walls

Source: 1. China Construction Association

2. PIM research and analysis

Economically developed areas including Guangdong, Jiangsu, Tianjin, Zhejiang, Shanghai, Shandong, Beijing, Fujian and Liaoning, are the most potential provinces/municipalities in terms of total investment on projects with curtain walls

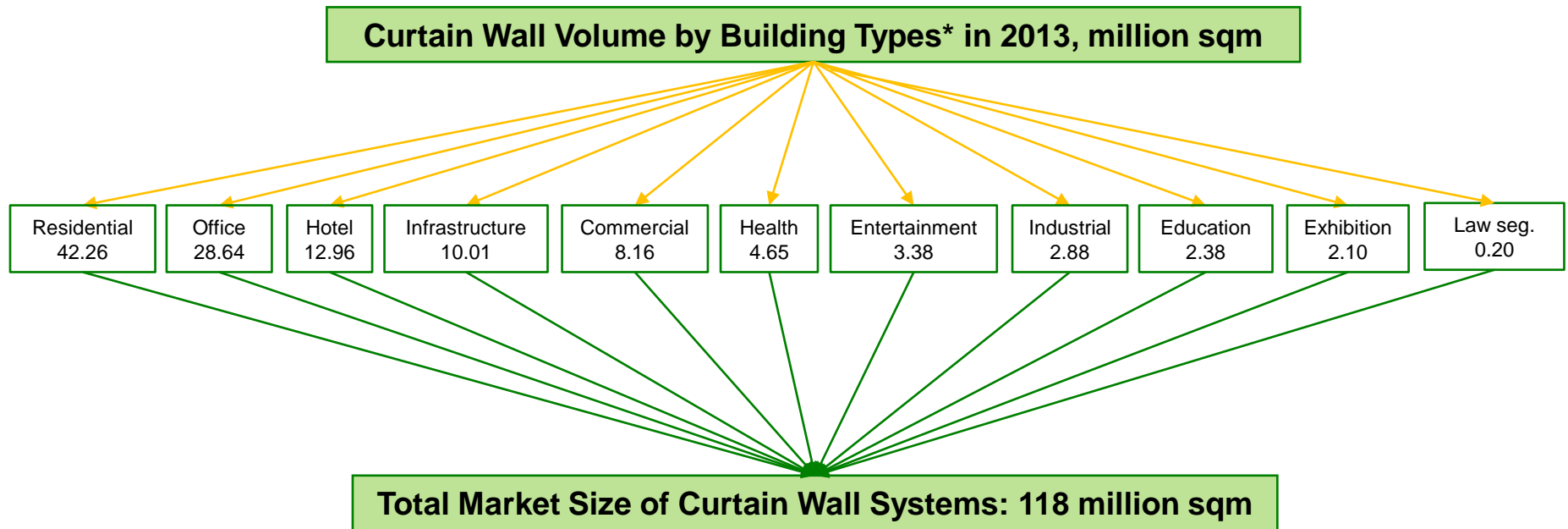
Total Investment of Projects with Curtain Walls by Provinces in 2013^{1,2} (Billion CNY)



Province	Invest.	Province	Invest.
Guangdong	77.9	Guangxi	10.8
Jiangsu	68.8	Heilongjiang	10.5
Liaoning	66.1	Yunnan	9.6
Tianjin	65.2	Inner Mongolia	8.5
Zhejiang	62.4	Jiangxi	6.7
Shanghai	57	Hainan	5.7
Shandong	42.5	Shanxi	5.4
Beijing	41.6	Shaanxi	4.9
Fujian	33.6	Guizhou	4.1
Hebei	20.9	Jilin	3.6
Hubei	19.2	Ningxia	2.8
Sichuan	17.6	Gansu	1.8
Anhui	16.9	Qinghai	0.3
Henan	14.2	Tibet	0.2
Chongqing	13.2	Xinjiang	0.1
Hunan	13.1		

Source:1.TCBCI databank,2013
2. PIM research and analysis

Office, hotel and housing segments are the top 3 markets for curtain wall materials, accounting for around 70% of the total consumption in 2013






Note: * Definitions of Building Types

- Residential: residential buildings and villas
- Office: office buildings
- Hotel: resorts, hotels and restaurants
- Infrastructure: airports, train stations, parking lots, public utilities, and community buildings
- Commercial : supermarket, shopping centers, and retail stores
- Health: hospitals and health care centers
- Entertainment: theatres, cinemas, and sports centers
- Industrial: plants, warehouses, and research activities buildings
- Education: schools, universities, and research institutes
- Exhibition centers: exhibition centers and libraries
- Law segments: courthouses, public security bureaus, police stations

Source: 1. TCBCI Databank and PIM analysis

Good appearance, low cost and high fireproof performance enable stone, glass and aluminum being widely used as curtain wall cladding materials

Factors Concerned		Stone		Glass		Aluminum		Aluminum Composite		Terracotta		HPL	
Appearance		1	Classic	1	Modern	1	Color free	1	Color free	6	Color is limited	1	Color free
Selling Price		3	Wide range, Low- High	1	Low	3	Medium	1	Low	3	Medium	6	High
Fire Rating		1	A1	1	A1	1	A1	5	A2/B1	1	A1	6	B2
Clean & Maintenance		3	Water spot	6	Easy to clean and should be cleaned every year	3	Not resistant to dirty	3	Not resistant to dirty	2	Easy to clean	1	Easy to clean and gather little dust
Weather resistance		4	Stability	6	Crack is possible in extreme temperatures	1	Strong weather-ability	1	Strong weather-ability	5	Relative stability	1	Strong weather-ability
Installation		5	Medium	6	Complicated	1	Easy	2	Easy	2	Easy	2	Easy
Weight		6	70kg/m ² (25mm)	4	16.8kg/m ² (6mm)	1	8.1kg/m ² (3mm)	1	5.5kg/m ² (4mm)	4	13.5kg/m ² (5mm)	1	6.5kg/m ² (8mm)

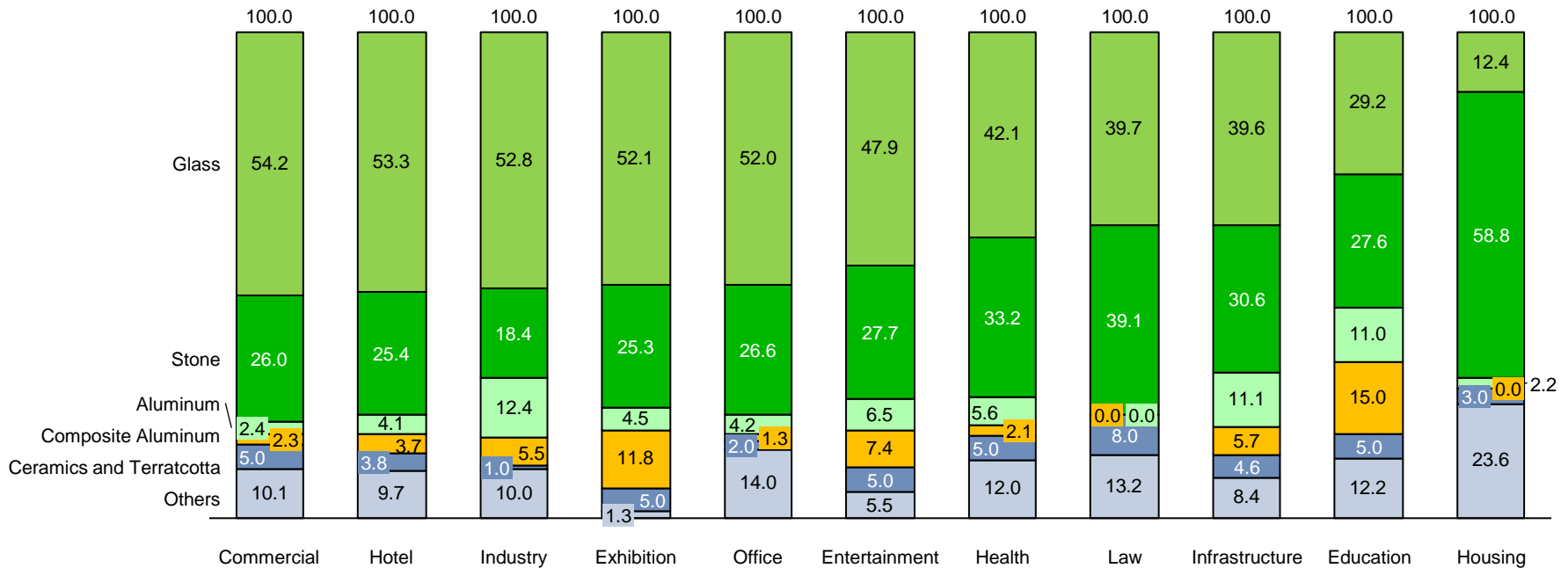
Level of Importance: The most important  the lest important 

Number in the table shows the ranking: 1 to 6: Best to worst

Definition of selling price: low: SP<200 CNY/sqm, Midium: 200<SP<600 CNY/sqm, High: SP>600 CNY/sqm

Glass curtain wall continues to be the main material for nearly all building types, being followed by stone

Curtain Wall Material Sizes Share by Building Types¹, 2013, %

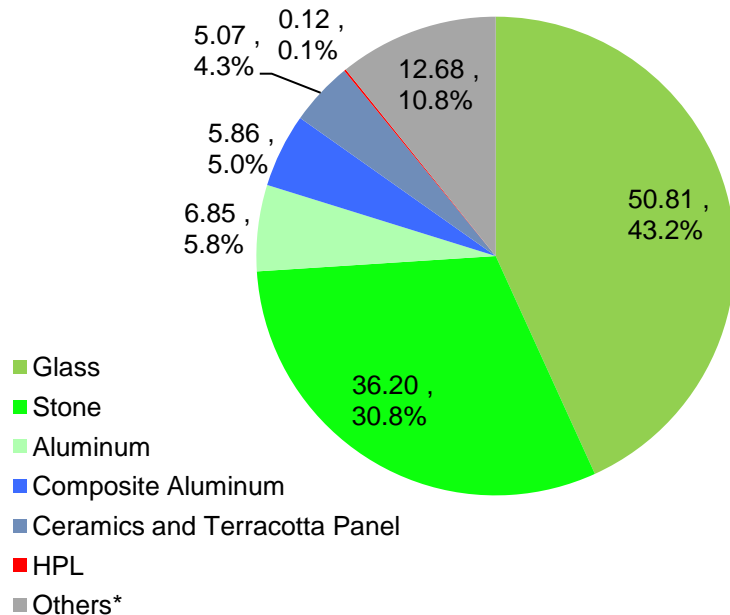


- Glass curtain wall producers, designers, and contractors are now resolving and avoiding the problems of light reflection glare and energy consumption by developing new types of glass material and optimizing curtain wall construction techniques
- 70~80% of the housing sector uses exterior cladding materials such as natural stone lacquer while the 1st and 2nd stories are usually decorated with stone curtain wall.

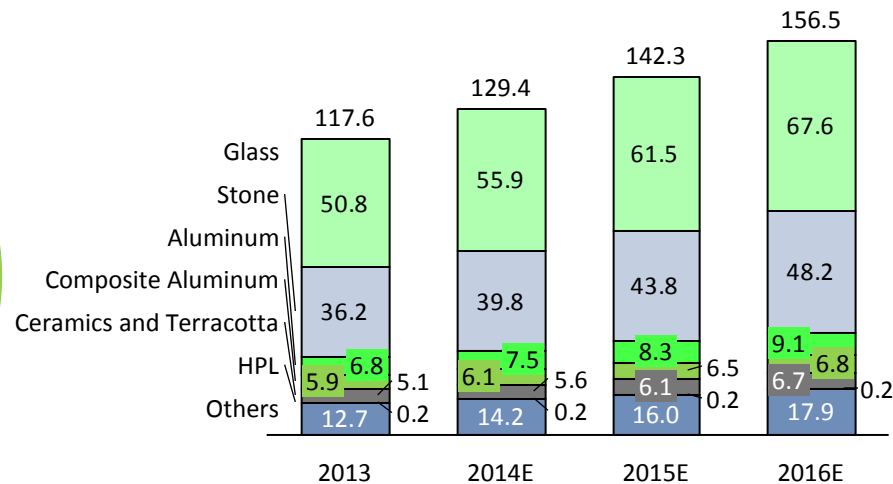
Source: 1. TCBCI databank and PIM analysis

In 2013, about 118 million sqm curtain wall cladding material were applied, with glass and stone taking up around 87% of the total consumption, and the market size is projected to be 157 million sqm in 2016 with a CAGR of 10%

Share of Curtain Wall Material Volume¹, million sqm, %, 2013



Forecast of Curtain Wall Material Volume², million sqm, 2013~2016



- From 2010 to 2013, the consumption volume of curtain wall materials grew at a YoY growth rate of 12%
- However, the China Curtain Wall Committee has projected a conservative CAGR of 10% over the coming 3 years, mainly because the macro policy proposed by the State Council and People’s Bank of China indicate a conservative growth of the development of China’s economy

Note: * Other materials here include steel, solid surface material, wood, and etc.

Source: 1. TCBCI databank and PIM analysis

2. China Curtain Wall Committee of China Construction Association

3. China Academy of Social Science

PIM can provide interested parties with customized opportunity analyses, and detailed pathways to the market value chain as well as identifying and qualifying potential Chinese partners

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