

Calcium carbide production cost: 90% in raw materials and fuel power

Carbide cost includes raw materials, fuel power, wages & welfares, workshop cost and other fees.

Raw materials

- Main feedstocks: lime, coke and electrode paste.
- 1mt carbide: 0.96mt lime stone, 0.6mt coke and 0.04mt electrode paste

Fuel power

- Electricity: 1) AC power in CaO production, coke processing and finished product crashing; 2) AC power for electric furnace in carbide production. 1mt carbide: averagely 3520 kw.h

Wages & welfares

- Wages and allowances, welfare fund, raw material/fuel saving prize of production line workers

Workshop cost

- Cost to manage and orgazise normal production in the workshop

Cost per ton = lime price (RMB/mt) × 0.96 + coke price (RMB/mt) × 0.6 + electrode paste price × 0.04 + power price (RMB/kw.h) × 3520 + other costs (labor, workshop cost, etc).

Production cost in XX (with captive power supply): power grid supply is RMB400/mt higher than that of captive supply for production of 1mt of carbide.

Item	Unit consumption	Price (excluding tax)	Sum (RMB)	Proportion (%)	
				Grid	Captive
Lime	0.96/mt	RMB239.32/mt	229.75	13.64	17.98
Coke	0.6/mt	RMB487.18/mt	292.31	17.35	22.88
Carbon paste	0.04/mt	RMB2136.75/mt	85.47	5.07	6.69
Power	Grid	3520kWh/mt	RMB0.2556/kWh	53.40	
	Captive	3520kWh/mt	RMB0.14/kWh	38.75	
Water	15m3/mt	RMB0.98/m3	14.70	0.87	1.15
Salary	-	-	38.45	2.28	3.01
Depreciation	-	-	89.44	5.31	7
Others	-	-	34.87	2.07	2.73
Total	Grid	-	1684.7	100	
	Captive	-	1277.79	100	

Sources: Chemease

PVC Feedstock -- calcium carbide

Calcium carbide cost

◆ Cost of calcium carbide consists of raw materials, fuel, wage and welfare, workshop cost and other fees. Among them, the first two are key components, which account for 90% of the total cost.

◆ Calcium carbide industry consumes much energy, so power cost is the core part of calcium carbide production cost. For example, electric resources in Xinjiang are abundant, assuring ample power supply. In 2005, the volume of power supply reaches 29bn kwh. So compared with other regions, Xinjiang is ideal to develop calcium carbide sector. In the region, electricity price of the system is RMB0.28/kwh and that of power plants is around RMB0.12/kwh, much advantageous than the price of RMB0.3-0.5/kwh in other major calcium carbide production areas.

Fuel dynamic-- power price

PVC Feedstock -- calcium carbide

Calcium carbide cost

Electricity prices in major domestic production areas

Region	Xinjiang	Inner Mongolia	Shanxi	Ningxia	Shaanxi
Power price (RMB/kwh)	0.30	0.31	0.33	0.39	0.36

Coke prices in major domestic production areas

Region	Shihezi	Xinjiang	Inner Mongolia	Shanxi	Ningxia
Pre-tax price (RMB/mt)	570	570	920	830	850

PVC Feedstock -- calcium carbide

Calcium carbide cost

Lime prices in major domestic production areas

Region	Xinjiang	Inner Mongolia	Shanxi	Ningxia	Shaanxi
Pre-tax price (RMB/mt)	24.5	95.1	130.1	1.8	30.6

Calcium carbide prices in major domestic production areas

Region	Xinjiang	Inner Mongolia	Shanxi	Ningxia	Shaanxi
Cost of calcium carbide (RMB/mt)	1687	2000	2050	2150	2150

Production cost

	Production cost	cost arriving Shanghai	cost arriving Guangzhou
× ×	5700	140 ~ 150(ship) ; 240 (train)	260 ~ 270 (train)
× ×	5300	230 ~ 250 (train)	330 ~ 350 (train)
× ×	5500	370 ~ 400 (train)	460 ~ 500 (train)
× ×	5300-5400 (Calcium carbide factory and power factory adopt independent accounting system this year)	410 ~ 460 (train)	510 ~ 550 (train)
× ×	5400-5500	180 ~ 200 (train)	280 (train)

Sources: Chemease