



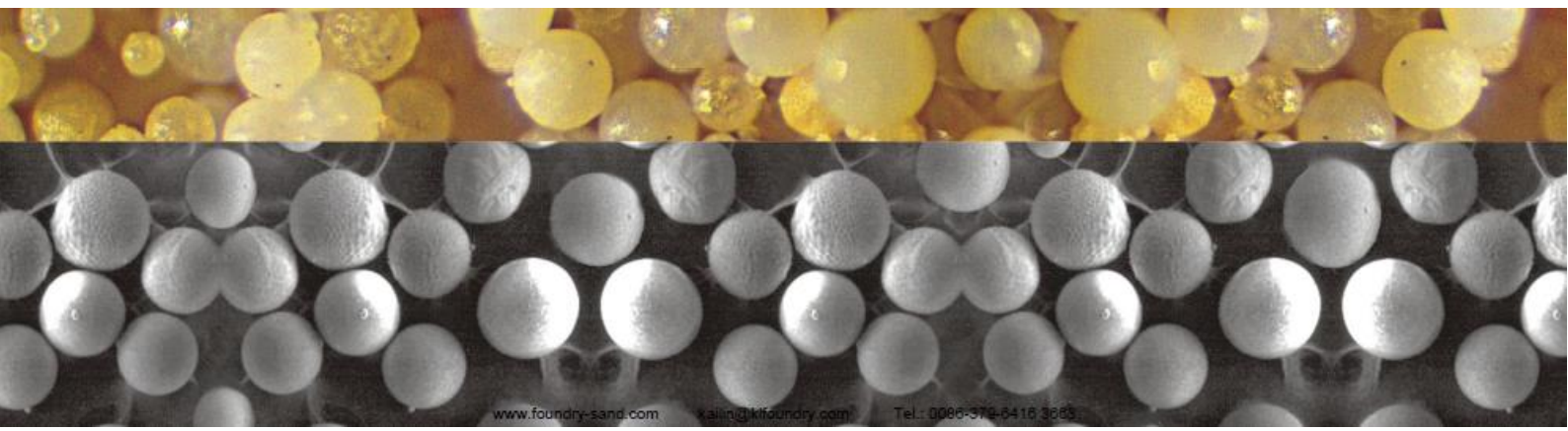
# Particle Size Distribution Regulations of Ceramic Sand

**Luoyang Kailin Foundry Material Co., Ltd**

**Email: [yilin@klfoundry.com](mailto:yilin@klfoundry.com)**

**Phone: +1(306)612-1114**

**Website: [www.foundry-sand.com](http://www.foundry-sand.com)**



## Principles:

- a) The inspector samples and tests according to the required frequency. The sieve process is sampled and tested every four hours; the finished ceramic foundry sand is sampled and tested once per ton of bales.
- b) In order to ensure the accuracy of the sample, use the special sampler of Ceramic Foundry Sand for sampling (Kailin is holding the patent of special sampler, the Patent No. is ZL 2018 2 0464365.3). Using the quartile method if the number of samples is oversized until the sample weight is appropriate.
- c) According to the type of Ceramic Foundry Sand, or based on the customers' designation, select the appropriate inspection screen.
- d) The sieve process requires that the number of main meshes that customers' requirement is not less than 75%. Otherwise, the QA & QC inspectors will notify the production department to clean the screen and re-sieve the ceramic foundry sand.
- e) Inspection of the finished ceramic foundry sand: Put in stock with qualified particle size. If the particle size does not meet the requirements, it shall be treated as unqualified product.

The above inspection is recorded by the QA & QC inspectors in the "Particle size distribution inspection record"

## The detailed procedures for inspection of particle size distribution of Ceramic Foundry Sand:

1. Randomly select 5 tons of finished Ceramic Foundry Sand



2. Sampling with special sampler of Ceramic Foundry Sand.  
(Kailin is holding the patent of special sampler; the Patent No. is ZL 2018 2 0464365.3)



3. Choose the sample according to the quartile method and weigh 100g sample



4. Place the sample in the filter sieve for testing



5. Use a vibrating screen to vibrate the filter sieve for 15 minutes, so that the sample is fully screened into each sieve dish.



6. Remove the sieving dish and place the sieved samples in the corresponding tray



7. Place the sand in each tray on an electronic scale and weight it



8. Record the reading



### Example of particle size distribution recording form:

砂子型号: 40# 郑#回城 L48# 19年11月30日

目数	20目	30目	40目	50目	70目	100目	140目	200目	270目	盘	AFS
指标		2/0	10-50	20-30	10-20	2/0	23	20.5			38-42
1		4.23	46.62	24.95	15.89	7.52	0.62	0.11			38.95
2		7.23	42.49	21.14	13.63	6.41	2.72	0.37			38.68
1/2 = 3		4.58	42.16	24.27	19.47	8.54	0.42	0.26			39.76
4		6.34	44.18	22.02	17.58	7.85	1.64	0.17			39.49
5		8.09	44.40	21.56	17.39	7.29	0.85	0.07			38.30
6		8.01	42.67	21.29	17.21	7.81	2.82	0.18			40.06
7		5.63	41.80	22.43	19.33	8.23	2.19	0.21			40.54
8		6.22	41.42	24.41	15.43	9.23	2.65	0.21			40.55
9		5.50	43.47	21.29	17.80	9.00	1.85	0.28			40.33
10		5.40	41.92	22.00	19.24	9.25	2.36	0.49			41.59
11		5.77	48.04	22.06	14.56	8.30	1.07	0.20			38.84
生产人员	张红伟					检验员		韩伟利			

第 / 页

### The Calculation of analysis results:

AFS particle size distribution comparison table:

AFS	6	12	20	30	40	50	70	100	140	200	270	PAN
factor(C)	3	5	10	20	30	40	50	70	100	140	200	300
ratio (P)	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12

Calculation formula:

$$AFS = \frac{\sum_{n=1 \text{ to } 12} C_n * P_n}{\sum_{n=1 \text{ to } 12} C_n}$$

Cn: the particle size factor of Ceramic Foundry Sand

Pn: the determination ratio of Ceramic Foundry Sand