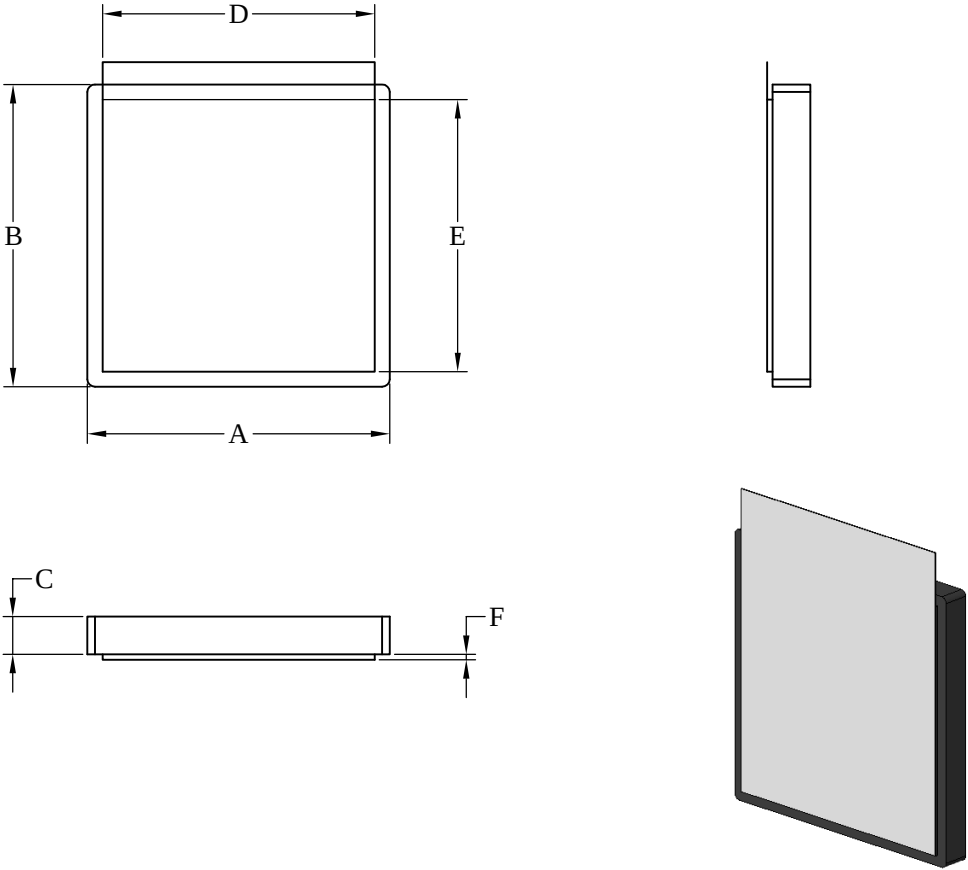


SPECIFICATION FOR APPROVAL

REF. :

PROD.	Ceramic Heat Sink	ABC'S DWG NO.	MPS□□□□□□BTf-□□□		
NAME		REV.	20220503-D	PAGE	1

I . Configuration :



* Products comply with RoHS' requirements

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II . dimensions and data sheet :

DWG. No.	ceramic heat sink Unit : mm (Length, width, thickness & wave height)			thermal tape Unit : mm (Length, width & thickness)			Weight (ref.) Unit : g
	A	B	C	D	E	F	
MPS101020BTF-□□□	10.0±0.3	10.0±0.3	2.0±0.2	8.5±0.5	8.5±0.5	0.25±0.07	0.40
MPS101030BTF-□□□	10.0±0.3	10.0±0.3	3.0±0.2	8.5±0.5	8.5±0.5	0.25±0.07	0.60
MPS101050BTF-□□□	10.0±0.3	10.0±0.3	5.0±0.2	8.5±0.5	8.5±0.5	0.25±0.07	0.95
MPS121225BTF-□□□	12.0±0.3	12.0±0.3	2.5±0.2	10.5±0.5	10.5±0.5	0.25±0.07	0.72
MPS121230BTF-□□□	12.0±0.3	12.0±0.3	3.0±0.2	10.5±0.5	10.5±0.5	0.25±0.07	0.85
MPS121250BTF-□□□	12.0±0.3	12.0±0.3	5.0±0.2	10.5±0.5	10.5±0.5	0.25±0.07	1.38
MPS131315BTF-□□□	13.0±0.3	13.0±0.3	1.5±0.2	11.5±0.5	11.5±0.5	0.25±0.07	0.45
MPS131350BTF-□□□	13.0±0.3	13.0±0.3	5.0±0.2	11.5±0.5	11.5±0.5	0.25±0.07	1.50
MPS151020BTF-□□□	15.0±0.3	10.0±0.3	2.0±0.2	13.0±0.5	8.0±0.5	0.25±0.07	0.65
MPS151515BTF-□□□	15.0±0.3	15.0±0.3	1.5±0.2	13.5±0.5	13.5±0.5	0.25±0.07	0.75
MPS151520BTF-□□□	15.0±0.3	15.0±0.3	2.0±0.2	13.5±0.5	13.5±0.5	0.25±0.07	0.95
MPS151525BTF-□□□	15.0±0.3	15.0±0.3	2.5±0.2	13.5±0.5	13.5±0.5	0.25±0.07	1.15
MPS181220BTF-□□□	18.0±0.3	12.0±0.3	2.0±0.2	16.0±0.5	10.0±0.5	0.25±0.07	0.82
MPS201525BTF-□□□	20.0±0.5	15.0±0.3	2.5±0.2	18.0±0.5	14.0±0.5	0.25±0.07	1.50
MPS202020BTF-□□□	20.0±0.5	20.0±0.5	2.0±0.2	18.0±0.5	18.0±0.5	0.25±0.07	1.50
MPS202025BTF-□□□	20.0±0.5	20.0±0.5	2.5±0.2	18.0±0.5	18.0±0.5	0.25±0.07	1.86
MPS202050BTF-□□□	20.0±0.5	20.0±0.5	5.0±0.2	18.0±0.5	18.0±0.5	0.25±0.07	3.66
MPS222225BTF-□□□	22.0±0.5	22.0±0.5	2.5±0.2	20.0±0.5	20.0±0.5	0.25±0.07	2.30
MPS252525BTF-□□□	25.0±0.5	25.0±0.5	2.5±0.2	23.0±0.5	23.0±0.5	0.25±0.07	2.50
MPS272725BTF-□□□	27.0±0.5	27.0±0.5	2.5±0.2	25.0±0.5	25.0±0.5	0.25±0.07	3.30
MPS281750BTF-□□□	28.0±0.5	17.0±0.5	5.0±0.2	26.0±0.5	15.0±0.5	0.25±0.07	4.20
MPS303025BTF-□□□	30.0±0.5	30.0±0.5	2.5±0.2	27.5±0.5	27.5±0.5	0.25±0.07	4.02
MPS404025BTF-□□□	40.0±0.5	40.0±0.5	2.5±0.2	37.0±0.5	37.0±0.5	0.25±0.07	8.05

SPECIFICATION FOR APPROVAL

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III . Ceramic Heat Sink Technical data sheet :

Main features		Item	Unit	Value	Method
Product		Ceramic Heat Sink with Micro-Pores Structure			
Product code				MP-SIC	
Color				Gray	
Specific gravity			g/cm ³	2.7	CNS619
Porosity			%	30	CNS619
Water absorption			%	15.77	CNS619
Mechanical properties	Mohs' hardness		N/mm ²	5~6	DIN EN101-1992
	Flexural strength		kgf/cm ²	47.5	CNS12701(1990)
	Bulk density		g/cm ³	1.6~2.0	CNS2893(1969)
	Resistance insulation		Ω	20*10 ⁶	ASTM D257
	Thermal conductivity		W/m-k	5~6	
	Maximum operating temperature		°C	<500	
	Linear thermal expansion coefficient		10 ⁻⁶	4.13	RT~300°C
Chemical composition	Main composition			SiC	80%↑
	Composition			Al ₂ O ₃	10%↑
	Composition			SiO ₂	4%↑
	Composition			Binding agents	5%↑

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SPECIFICATION FOR APPROVAL

REF. :

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IV . Thermal tape specification :

Part number		TT-025		Test method	Remark
Color		White		...	
Adhesive Type		Acrylic Polymer		...	
Carrier		Fiber Glass		...	
Thickness(mm)	Tape	0.25		ASTM D3652	
	Liner	0.13			
Density (g/cm ²)		1.42		...	
Hardness (Shore A)		45		ASTM D2240	
Thermal conductivity (W/m-k)		0.8		ASTM D5470	
Operation temp. (°C)		-40~110		...	
Insulation strength (Volt/mm)		6500		ASTM D149	
Tensile strength (lbs./in)		180		ASTM D3759	
Elongation (%)		5		ASTM D3759	
Static shear adhesion (1kg/0.5in ²)		22°C PASS 70°C PASS		ASTM D3654	10,000 mins
Adhesion to Stainless steel	(g/25.4mm)	15 min RT	1991	ASTM D3330	180 degree 0.05mm Al foil 22°C. 50% RH
		72 hr RT	2167		
Adhesion to ABC		15 min RT	1536		
		72 hr RT	1755		
Adhesion to PC		15 min RT	1840		
		72 hr RT	1950		
Adhesion to PP		15 min RT	1400		
		72 hr RT	1650		
Shelf Life	12 months from date receipt by customer when stored in original carton at 22°C and 50% relative humidity				

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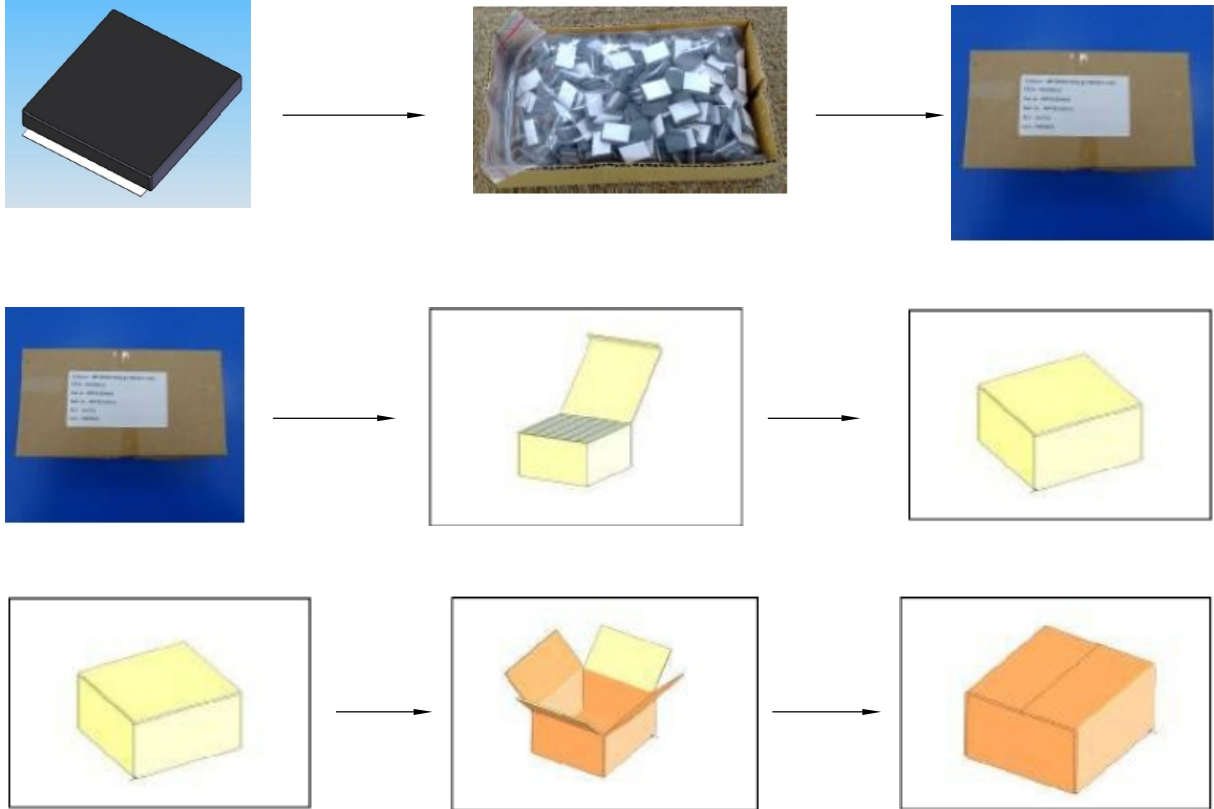
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SPECIFICATION FOR APPROVAL

REF. :

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V-I . Packaging information (Box) :



Q'TY & G.W.Per Packaging

DWG NO.	Inner : Box		Outer : Carton		
	Q'TY(pcs)	G.W.(g)	Q'TY(pcs)	G.W.(kg)	Size (cm)
MPS101020BTF	500	220	16,000	9.00	37.5x37.0x21.0
MPS101030BTF	300	200	9,600	8.50	37.5x37.0x21.0
MPS101050BTF	200	210	6,400	8.50	37.5x37.0x21.0
MPS121225BTF	150	130	4,800	6.00	37.5x37.0x21.0
MPS121230BTF	150	150	4,800	6.50	37.5x37.0x21.0
MPS121250BTF	150	230	4,800	9.00	37.5x37.0x21.0
MPS131315BTF	200	110	6,400	5.50	37.5x37.0x21.0
MPS131350BTF	150	250	4,800	10.00	37.5x37.0x21.0
MPS151020BTF	300	220	9,600	8.50	37.5x37.0x21.0

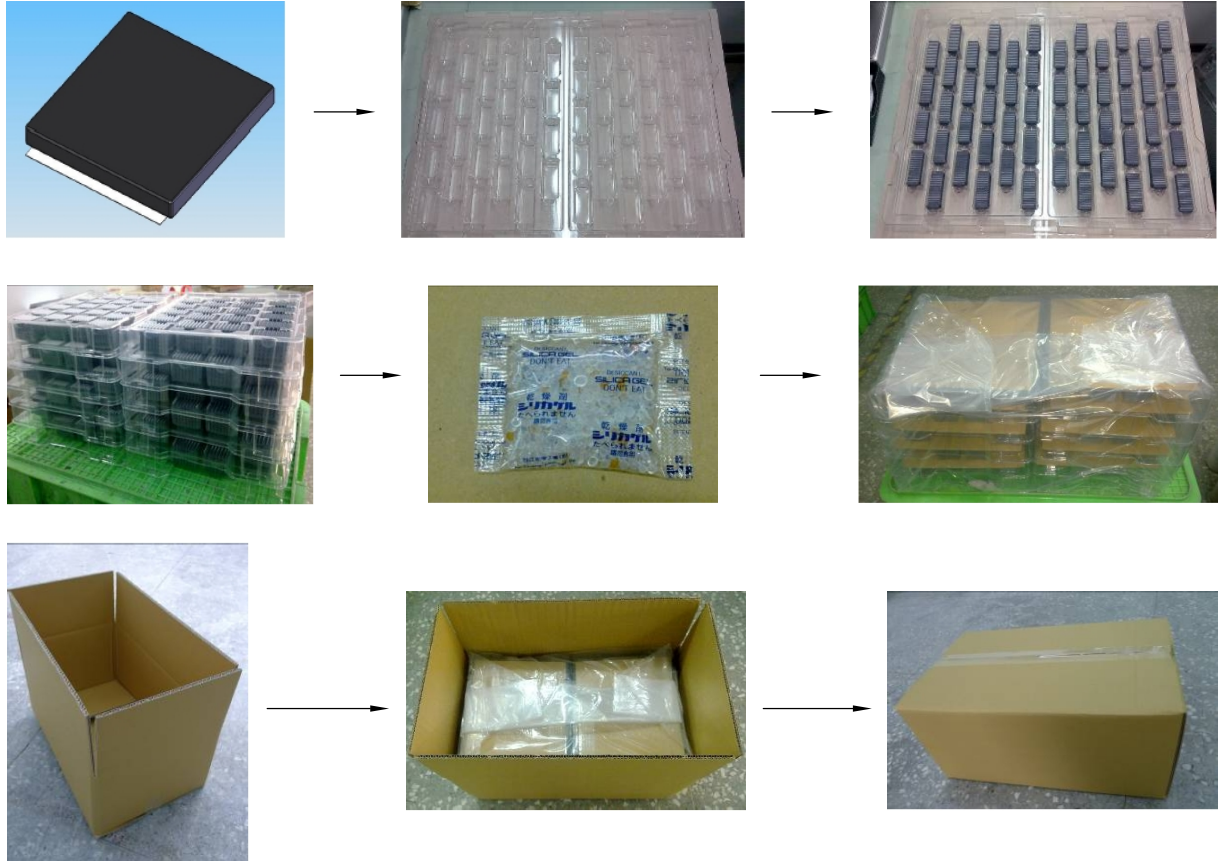
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SPECIFICATION FOR APPROVAL

REF. :

PROD.	Ceramic Heat Sink	ABC'S DWG NO.	MPS□□□□□□BTF-□□□		
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V-II . Packaging information (Tray) :



Q'TY & G.W.Per Packaging

DWG NO.	Inner : Tary		Outer : Carton		
	Q'TY(pcs)	G.W.(g)	Q'TY(pcs)	G.W.(kg)	Size (cm)
MPS151515BTF	1,242	1,050	6,210	7.00	52.0x32.0x14.0
MPS151520BTF	918	1,000	4,590	6.50	52.0x32.0x14.0
MPS151525BTF	810	1,050	4,050	7.00	52.0x32.0x14.0
MPS181220BTF	918	900	4,590	6.00	52.0x32.0x14.0
MPS201525BTF	810	1,400	4,050	8.00	52.0x32.0x14.0
MPS202020BTF	918	1,500	4,590	9.00	52.0x32.0x14.0
MPS202025BTF	810	1,600	4,050	9.50	52.0x32.0x14.0
MPS202050BTF	432	1,700	2,160	10.00	52.0x32.0x14.0
MPS222225BTF	540	1,350	5,400	15.00	56.8x33.5x12.0
MPS252525BTF	300	850	3,600	11.00	52.5x31.0x23.5
MPS272725BTF	300	1,100	3,600	14.00	52.5x31.0x23.5
MPS281750BTF	216	950	1,080	6.00	52.0x32.0x14.0
MPS303025BTF	300	1,300	3,600	16.50	52.5x31.0x23.5
MPS404025BTF	180	1,600	1,800	16.50	52.5x31.0x23.5

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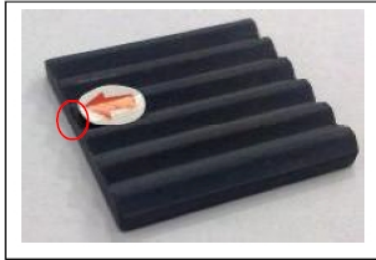
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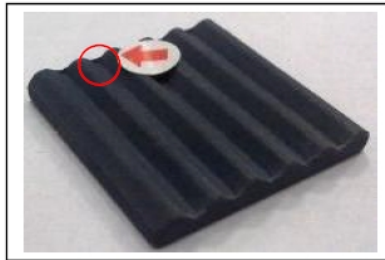
PROD.	Ceramic Heat Sink	ABC'S DWG NO.	MPS□□□□□□BTf-□□□		
NAME		REV.	20220503-D	PAGE	6

VI . Criteria of product inspection :

(1) Accepted Product



Appearance Description : Crack
Limitation : Less than 2 mm



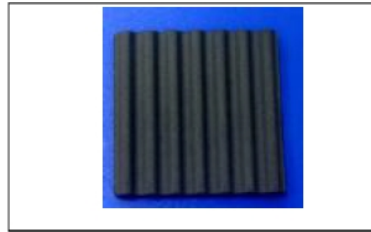
Appearance Description : Burr
Limitation : Less than 2 mm



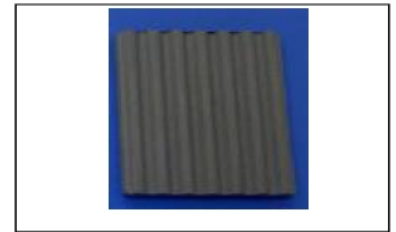
Appearance Description : Hole
Limitation : Less than 2 mm



Appearance Description : Deep Gray

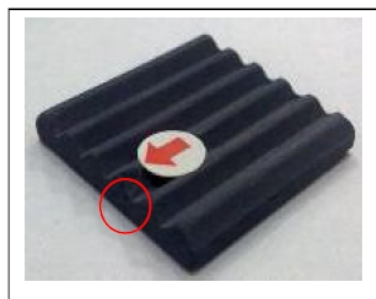


Appearance Description : Gray

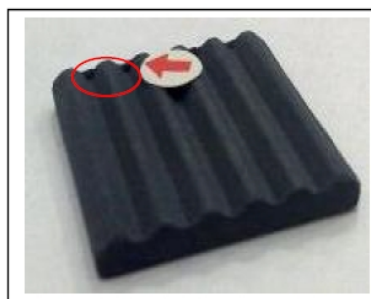


Appearance Description : Light Gray

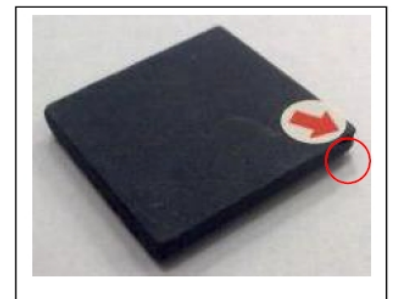
(2) Rejected Product



Appearance Description : Crack
Failure : More than 2 mm



Appearance Description : Burr
Failure : More than 2 mm



Appearance Description : Hole
Failure : more than 2 mm

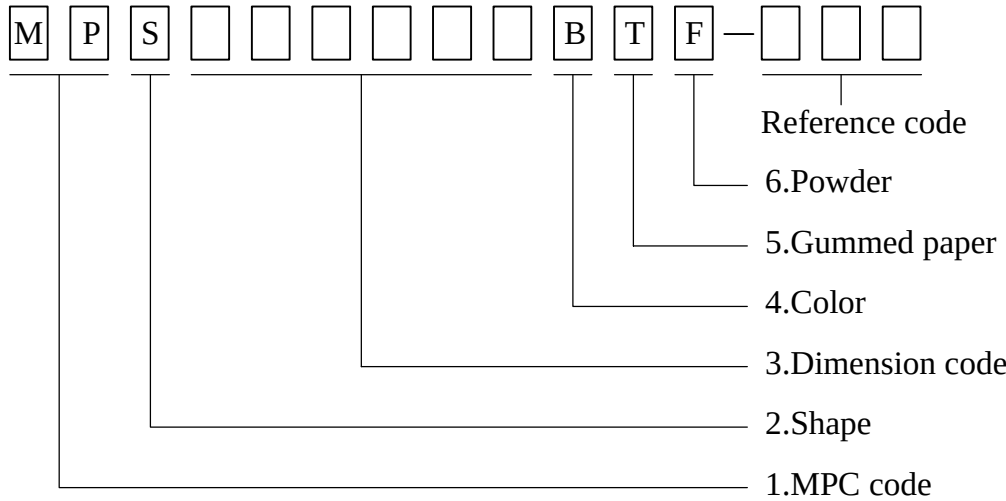
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SPECIFICATION FOR APPROVAL

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VII . Drawing number expression :



- * 1- MP : Heat sink
- * 2- S : flat 、 W : wave 、 F : fin 、 R : reel
- * 3- Long, wide, thick
- * 4- B : black 、 G : green
- * 5- A : no thermal tape 、 T : Thermal tape with fiberglass 、 N : Thermal tape with non fiberglass
C : circle and L type thermal tape 、 S : customer specified 、 2~9 : special case
- * 6- A : Outsourcing SiC product 、 F : SiC spray granulation 、 G : Composite graphene