

(19)
(12)

(KR)
(A)

(51) 。 Int. Cl. 7
C23C 4/12

(11)
(43)

2003 - 0018695
2003 03 06

(21) 10 - 2001 - 0052949
(22) 2001 08 30

(71) 35
(72) 31
32
31
202 201

(74)
:

(54)

가 (가)
가

(plasma spraying) .
 (mixed powder)
 method) ' (A. S. Demirkiran and E. Avci, Surf. Coat. Technol., 116/119 (1992) 292), ' 2
 (2 feeder method) ' (J. Musil and J. Fiala, Surf. Coat. Technol., 52 (1992) 211) , 1(a)
 1(b)

가 1m , ,
 (mechanical alloying) (K. A. Kh
 or and Y. W. Gu, in C. C. Berndt (ed.), Proc. 1st United Thermal Spray Conf., Indianapolis, Indiana, 15 - 1
 8 Sept. 1997, ASM international, materials Park, OH, 1997, pp. 259 - 265) , 가
 가 . 2

가
 가
 가 가
 (N. Shimoda, S. Kitaguchi, T. Saito,
 H. Takigawa, and M. Koga, in M. Yamanouchi et al. (eds.), Proc. 1st Int. Symp. on FGM, Sendai, Japan, 8 -
 9 Oct. 1990, FGM Forum, Tokyo, Japan, 1990, pp.151 - 156; H.D. Steffens, M. Dvorak, and M. Wewel, in
 M. Yamanouchi et al. (eds.), Proc. 1st Int Symp. on FGM, Sendai, Japan, 8 - 9 Oct 1990, FGM Forum, Tokyo
 o, Japan, 1990, pp.139 - 143; Y. Shinohara, Y. Imai, S. Ikeno, I. Shiota, and T. Fukushima, ISIJ Int., 32 (1
 992) 893). 가 (thermal barrier coating; TB
 C)

가
 2790 , MCrAlY 1300 1400 (partially stabilized zirconia) 가 .

가
 , (1) 가 , (2) 가 , (3) 가

가 , 가

(detonation gun spraying)

(shot)
(shot ratio)

가

가

가

가

가

가

가

1

1950

가

2(a)
1 m

2(a)

가

20 mm,

가

1/100

가

가 가

1

(shot)

,가

, 25 mm

μm

2(b)

2(b)

(specimen manipulator)

(1)

가

(2)

,가

가

HVOF(high - velocity oxy fuel)

3 (1) - 3(a) 가
 3(a) A B
 A B가 1:1
 A B
 .2 가
 가

가 1 25 mm
 A B
 A B가
 , 3(b)
 , 1 가 25 mm

3(c)

0% 100%

A B가 50%
 :50% 가 A B
 1 A B 3:1
 A B 75% A B 3
 B

4 (2) - 4(a)
 100% A 가 A B 가 3:1 75% A - 25% B
 가 가 A B 2:1, 1:1, 1:2, 1:3
 00% B 0% 1

4(b)

가
가
가

()

가
(

가 /)

100% 0%

5

(Yttria - stabilized zirconia:YSZ) ZrO₂ - 8 % Y₂O₃ 가 Ni -
22Cr - 10Al - 1Y(%) 가 NiCrAlY .
가 , 가 5(b),(c) (ceramic - rich area)
(metal - rich area) , (d),(e) 75%, 25%

가 μ m, μ m (splat) 가 , 5
0% 100% 가 (4(b)),

가 , (lamella) 가 ,
, 5 가

가 ,

6 (phase) X - (X - ray diffraction: XRD)
가 , 100% 100% 가

가 ,
 ,
 .

7

1

가 ,
 ,
 .

(, , 가)

가가 .

가 ,

가 ,

(57)

1.

2.

1

3.

1 ,

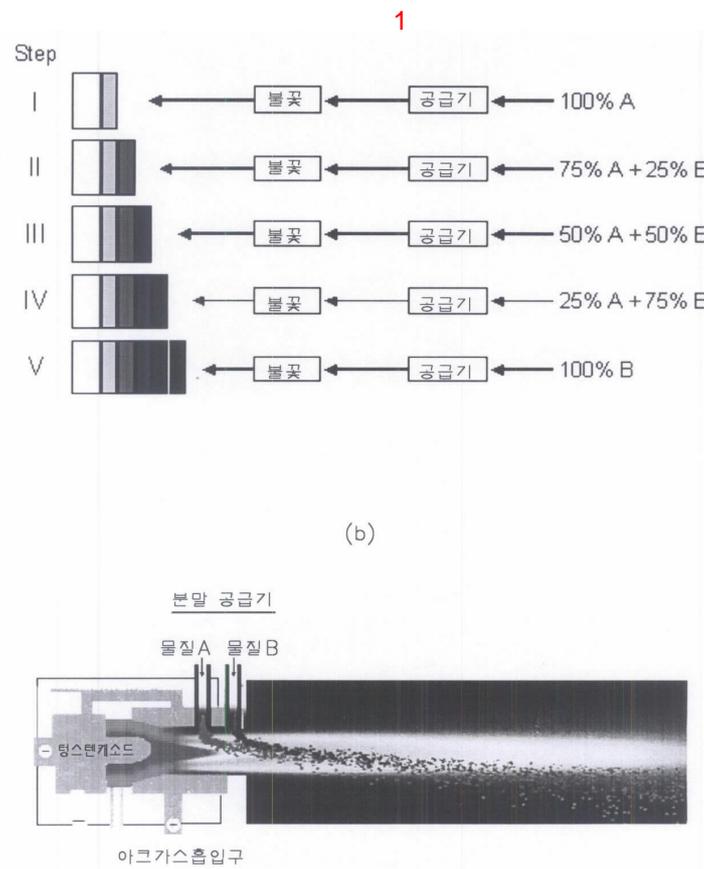
4.

1 ,

5.

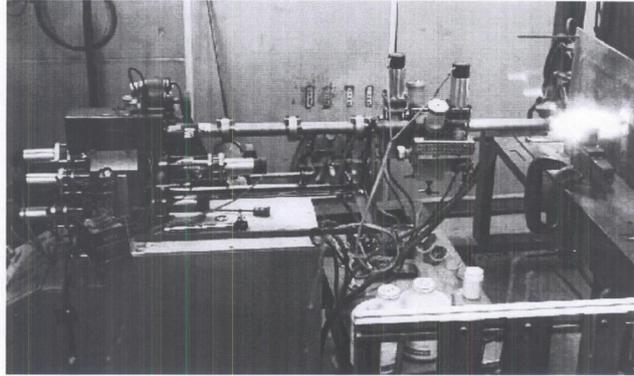
1 ,
가

1

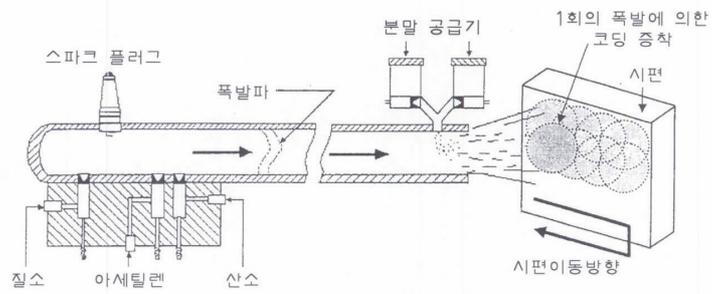


2

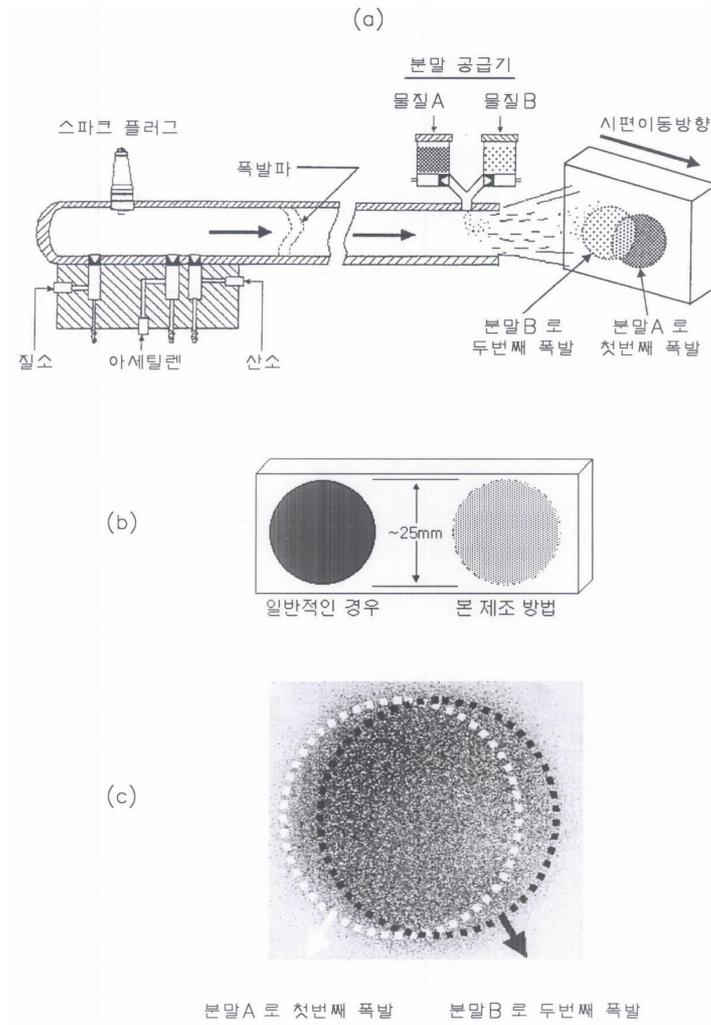
(a)



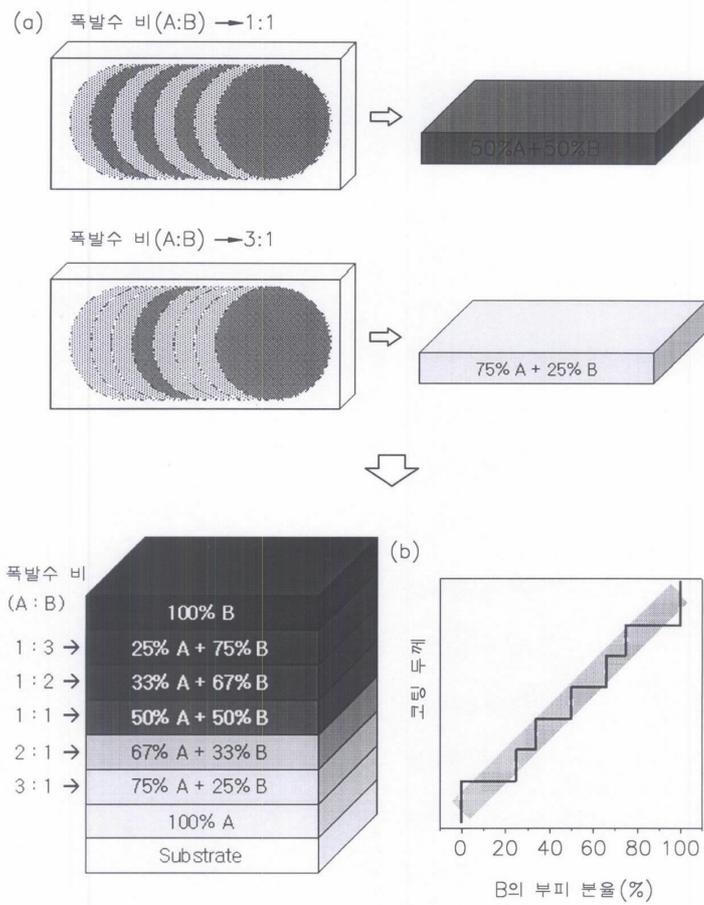
(b)



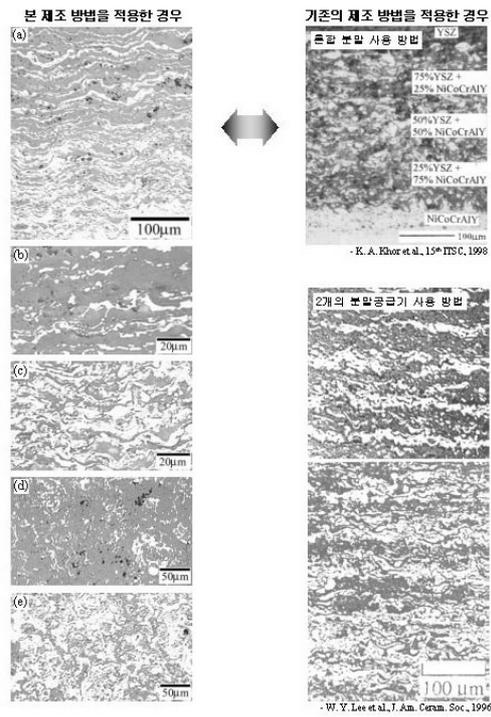
3



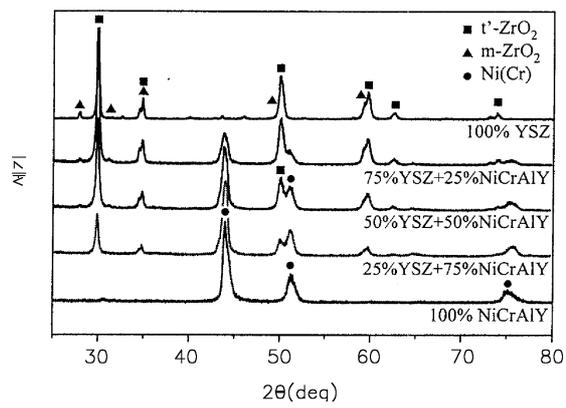
4



5



6



7

