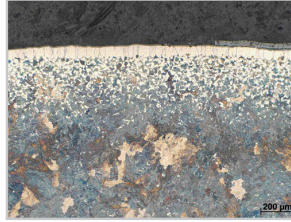


1. 시편 종류

- 저, 중 탄소강 (Low and medium carbon steel parts)



Decarburized Steel

2. 시편 절단 및 성형 공정

Table 1. Cutting Parameters

PowerCut 10x™	
Coolant	Lubri-Cut Cutting Fluid
Wheel Type	Aluminum Oxide
Wheel Bond	Resin
Size	10"

Table 2. Hot Mounting Parameters

TechPress3™	
Mold Size	1.25"
Powder	Black glass-filled epoxy powder
Pre-Heat	Off
Heat Temp/Time	160 °C / 9 min
Cool Time	6 min
Pressure	4002 PSI

3. 연삭 및 연마 공정

Table 3. MetPrep4™ / PH-6™ Grinding/Polishing Procedure

Step		1	2	3	4	5
Consumables	Abrasive Size (P-Grading)	180 Grit (P-180)	320 Grit (P-400)	600 Grit (P-1200)	3 µm	0.05 µm
	Type	Silicon Carbide	Silicon Carbide	Silicon Carbide	Polycrystalline Diamond	Alumina
	Carrier	Abrasive Disc	Abrasive Disc	Abrasive Disc	Glycol Suspension	Suspension
	Polishing Cloth	-	-	-	Gold Label	Vel-Cloth
	Coolant	Water	Water	Water	GreenLube	Water**
Settings	Platen Speed(RPM) / Direction	300 Comp	300 Comp	300 Comp	150 Contra	150 Contra
	Sample Speed (RPM)	150	150	150	150	150
	Force (lbf/N) +	5/22	5/22	5/22	5/22	4/18
	Time (min)	1*	1	1	2	1

* 시편이 평탄 할 때까지 작업

** 물은 연마포를 적시어 세척하는 용도 임

+ 1.25" (32마리물드) 사용 시: 만일 총 표면면적이 변하는 경우는, 적용하는 압력을 일정하게 유지하기 위해 Force를 조절해 주어야 함.

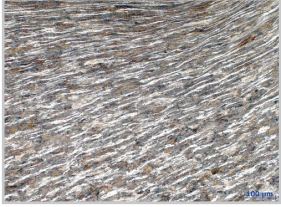
Comp 플레튼, 시편홀더 동일회전 방향

Contra 플레튼, 시편홀더 반대회전 방향

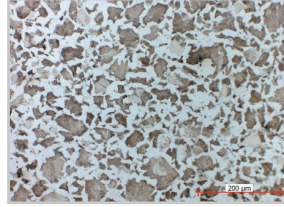
Table 4. AD-5™ Dispensing Parameters

Step	4	5"
Type	Diamond Suspension & GreenLube	Alumina Suspension
Pulses/Min	6	10
Pulse Length	0.5 sec	2
Water Flush	Off	On

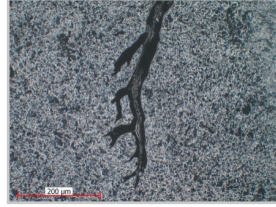
4. 결과 사진



Forged Steel Grain Flow,
200x BF



8620-4615 Steel,
Brightfield, 200x



Steel Weld - Crack,
Darkfield, 100x

5. 사용 소모품 소개

- #80-40022 10" Aluminum Oxide Cut-Off Blade, Resin Bond Lubri-Cut
- #80-10130
- #150-10105 Black Glass-Filled Epoxy Powder
- #135-10012 Green Phenolic Hot Mounting Powder
- #50-11055 180 Grit Silicon Carbide Abrasive Disc
- #50-11065 320 Grit Silicon Carbide Abrasive Disc
- #50-11075 600 Grit Silicon Carbide Abrasive Disc
- #150-10105 Black Glass-Filled Epoxy Powder
- #80-40022 10" Aluminum Oxide Cut-Off Blade, Resin Bond
- #90-30020 3 μm Polycrystalline Diamond Suspension
- #90-187540 0.05 μm Alumina Suspension
- #90-209000 GreenLube Polishing Lubricant
- #90-700-217 Gold Label Rigid Back Disc
- #90-500-412 Vel-Cloth Polishing Cloth
- #148-10000 Micro Organic Soap
- #200-20000 Aero-Duster Compressed Air
- #95-10230 GP Cleaning Solution

** 소모품 샘플은 무료로 제공해 드리고 있습니다

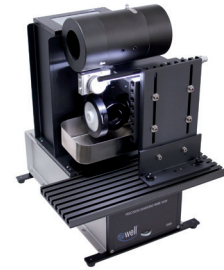
6. 참조자료

분류 목록 명: 철강
1 - 49: 일반 탄소강

1. 저, 중 탄소강 (대표자료)
2. 경화된 탄소강 조직 및 입도분석용 시편 준비
3. 경화된 탄소강
4. 열처리된 탄소강 #1
5. 열처리된 탄소강 #2
6. 철계 와이어 등
7. 열처리 강 입도분석
8. 탄소강 튜브 단면
9. GRADE 91 철강
10. 강철칼날 (하드코팅&삼각현형상)
11. 철판재 Grain Size 분석
12. 마르텐사이트 조직
13. Flat Rolled Sheet Steel
14. Salt-Fog Tested M10 Steel U-Boat
15. Various Steel Samples
16. 침탄 4140 Steel
17. 6022 AI 리벳된 탄소강
18. 열처리된 4140 Steel
19. 탄소강개재물 분석
20. NiCr 코팅 Steel
21. Case harden 1015 Steel
22. HSLA Steel



PowerCut 10x™ Abrasive Cut-Off Saw



WELL 3500 Premium Diamond
Wire Cutting System



TechPress3™ Hydraulic-Pneumatic Mounting
Press / 1¼" Mold Assembly

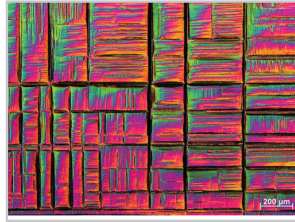


MetPrep4™ / PH-6™ Grinding/ Polishing
System, AD-5™ Automatic Fluid Dispenser

상세 기술자료, 소모품 샘플 및 기술상담이 필요하시면,
(주)진우테크 시편전처리 센터로 연락 주시기 바랍니다
email: info@chinwoo.co.kr 전화: 031-777-1277

1. 시편 종류

- 특수강 - SUS (413F 및 19D)



Cryogenically Quenched Single Crystal Stainless Steel

2. 시편 절단 및 성형 공정

Table 1. Cutting Parameters

PowerCut 10x™	
Coolant	Lubri-Cut Cutting Fluid
Wheel Type	Aluminum Oxide
Wheel Bond	Resin
Size	10"

Table 2. Hot Mounting Parameters

TechPress3™	
Mold Size	1.25"
Powder	Black glass-filled epoxy powder
Pre-Heat	Off
Heat Temp/Time	160 °C / 9 min
Cool Time	6 min
Pressure	4.5 bar

3. 연삭 및 연마 공정

Table 3. MetPrep3™ / PH-3™ Grinding/Polishing Procedure

Step	1	2	3	4	5	6	
Consumables	Abrasive Size (P-Grading)	180 Grit (P-180)	320 Grit (P-400)	600 Grit (P-1200)	6 µm	1 µm	0.04 µm
	Type	Silicon Carbide	Silicon Carbide	Silicon Carbide	Polycrystalline Diamond	Polycrystalline Diamond	Collodial Silica
	Carrier	Abrasive Disc	Abrasive Disc	Abrasive Disc	Glycol Suspension	Glycol Suspension	Suspension
	Polishing Cloth	-	-	-	DiaMat	White Label	Final A
	Coolant	Water	Water	Water	GreenLube	GreenLube	Water**
Settings	Platen Speed(RPM) / Direction	300 Comp	300 Comp	300 Comp	150 Contra	150 Contra	150 Contra
	Sample Speed (RPM)	150	150	150	150	150	150
	Force (lbf/N) †	5/22	5/22	5/22	5/22	5/22	4/18
	Time (min)	1*	1	1	4	3	1

* 시편이 평탄 할 때까지 작업

** 물은 연마포를 적시어 세척하는 용도 임

† 1.25" (32밀리미터) 사용 시: 만일 총 표면면적이 변하는 경우는, 적용하는 압력을 일정하게 유지하기 위해 Force를 조절해 주어야 함.

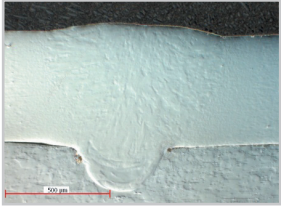
Comp 플레튼, 시편홀더 동일회전 방향

Contra 플레튼, 시편홀더 반대회전 방향

Table 4. AD-5™ Dispensing Parameters

Step	4"	5"
Type	Diamond Suspension & GreenLube	Alumina Suspension
Pulses/Min	6	10
Pulse Length	0.5 sec	2
Water Flush	Off	On

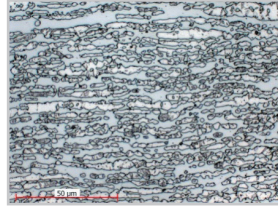
4. 결과 사진



430F Stainless Steel Weld,
Circular-DIC, 100x



430F Stainless Steel Weld,
Brightfield, Etched with
Vilella's Reagent, 50x



19D Duplex Stainless Steel,
Brightfield, Etched with
Beraha's Reagent, 1000x

5. 사용 소모품 소개

- #80-40001 10" Aluminum Oxide Cut-Off Blade, Resin Bond
- #80-10130 Lubri-Cut
- #150-10105 Black Glass-Filled Epoxy Powder
- #50-11055 180 Grit Silicon Carbide Abrasive Disc
- #50-11065 320 Grit Silicon Carbide Abrasive Disc
- #50-11075 600 Grit Silicon Carbide Abrasive Disc
- #90-30025 6 μm Polycrystalline Diamond Suspension
- #90-30015 1 μm Polycrystalline Diamond Suspension
- #180-25000 0.04 μm Non-Stick/Rinsable Collodial Silica
- #90-209000 GreenLube Polishing Lubricant
- #90-700-550 DiaMat Rigid Back Disc
- #90-700-500 White Label Rigid Back Disc
- #180-10705 Final A Rigid Back Disc
- #148-10000 Aero-Duster Compressed Air
- #95-10230 GP Cleaning Solution

** 소모품 샘플은 무료로 제공해 드리고 있습니다

6. 참조자료

분류 목록 명: 특수강

1 - 50: SUS

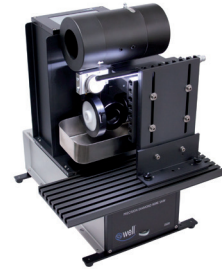
- | | |
|-----------------------------|---|
| 1. SUS (413F 및 19D): 대표자료 | 5. 41L40 (납첨가)&11L44NiCr Coated Steel (SC |
| 2. SUS 304 주물 및 인코넬 625 스크린 | 6. SUS (4340) with Aeroblue Coating |
| 3. SUS 튜브 재료 EBSD 시편 (MP) | 7. SUS 튜브 (400SS) |
| 4. SUS 튜브 (316-L, 19D) | 8. SUS 440C 부품 |

51 ~ 99 : 특수강

- | | |
|--------------------------------------|--------------------------------------|
| 51. 수퍼알로이 (인코넬 718, Alloy 625 및 188) | 55. KOVAR (Fe-Ni-Co) |
| 52. 인코넬 (알루미늄 코팅) : 항공우주용 웨스너 | 56. 코발트베이스 수퍼알로이 |
| 52-1. 인코넬 부품 표면부 관찰 | 57. Inconel 718 |
| 53. 공구강 (H-11VM) 웨스너 | 58. Quenched and Tempered 4140 Steel |
| 54. 질화공구강(H13) PVD 코팅 | |



PowerCut 10x™ Abrasive Cut-Off Saw



WELL 3500 Premium Diamond
Wire Cutting System



TechPress3™ Hydraulic-Pneumatic Mounting
Press / 1¼" Mold Assembly



MetPrep3™ / PH-3™ Grinding/ Polishing
System, AD-5™ Automatic Fluid Dispenser

상세 기술자료, 소모품 샘플 및 기술상담이 필요하시면,
(주)진우테크 시편전처리 센터로 연락 주시기 바랍니다
email: info@chinwoo.co.kr 전화: 031-777-1277

1. 시편 종류

- Inconel713



Inconel713

2. 시편 절단 및 성형 공정

Table 1. Cutting Parameters

PowerCut 10x™	
Coolant	Lubri-Cut Cutting Fluid
Wheel Type	Alumina Oxide
Wheel Bond	Resin
Size	10"

Table 2. Hot Mounting Parameters

TechPress3™	
Mold Size	1" (25 mm)
Powder	Black glass-filled epoxy powder
Pre-Heat	Off
Heat Temp/Time	180°C/8 min
Cool Time	10 min
Pressure	4408psi

3. 연삭 및 연마 공정

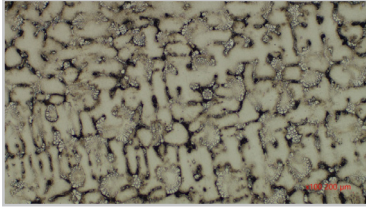
Table 3. Grinding/Polishing - Auto Polisher

Step	Grinding				Polishing	
	1	2	3	4	5	6
Abrasive	220Grit	600Grit (P-1200)	800Grit (P-2400)	1200Grit (P-4000)	3 μm	0.04 μm
Type	Dia-Grid	Dia-Grid	SiC	SiC	Diamond	Colloidal Silica
Carrier	Diamond Disc	Diamond Disc	Diamond Disc	Diamond Disc	Suspension	Suspension
Polishing Cloth	-	-	-	-	DiaMat	Final A
Coolant	Water	Water	Water	Water	GreenLube	-
Platen Speed(RPM) / Direction	100/Comp	100/Comp	100/Comp	100/Comp	100/Comp	100/Contra
Sample Speed RPM)	90	90	90	90	90	90
Force (lbF)	3	3	4	4	3	3
Time (min)	Until Flat	1'00"	3'00"	3'00"	3'00"	3'00"

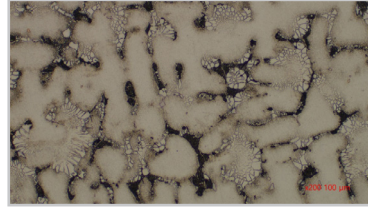
Table 4. AD-5™ Dispensing Parameters

Step	5	6
Type	Diamond Suspension & GreenLube	Colloidal Silica Suspension
Pulses/Min	6	6
Pulse Length	0.5sec	1sec
Water Flush	Off	On

4. 결과 사진



x100



x200

5. 사용 소모품 소개

- #80-40040 10" Alumina Oxide Cut-Off Blade, Resin Bond
- #80-10130 Lubri-Cut
- #150-10105 Black Glass-Filled Epoxy Powder
- #200-10006 PTFE Based Mold Release Spray
- #50-71010M 220 Grit Dia-Grid Resin Bond RIGID
- #55-52002 PTFE Ferromagnetic Support Disc
- #50-11075 600 Grit Silicon Carbide Abrasive Disc
- #50-11076 800 Grit Silicon Carbide Abrasive Disc
- #50-11077 1200 Grit Silicon Carbide Abrasive Disc
- #90-30020 3 μm Polycrystalline Diamond Suspension
- #180-25000 0.04 μm Non-Stick/Rinsable Colloidal Silica Suspension
- #90-209000 GreenLube Polishing Lubricant
- #90-700-555 DiaMat Rigid Back Cloth
- #180-10710 Final A Rigid Back Cloth
- #148-10000 Micro Organic Soap

** 소모품 샘플은 무료로 제공해 드리고 있습니다

6. 참조자료

분류 목록 명: 특수강

1 - 50: SUS

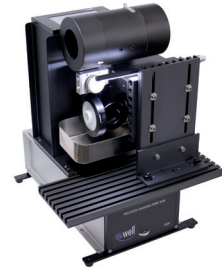
- | | |
|-----------------------------|---|
| 1. SUS (413F 및 19D): 대표자료 | 5. 41L40 (납첨가)&11L44NiCr Coated Steel (SC |
| 2. SUS 304 주물 및 인코넬 625 스크린 | 6. SUS (4340) with Aeroblue Coating |
| 3. SUS 튜브 재료 EBSD 시편 (MP) | 7. SUS 튜브 (400SS) |
| 4. SUS 튜브 (316-L, 19D) | 8. SUS 440C 부품 |

51 ~ 99 : 특수강

- | | |
|--------------------------------------|--------------------------------------|
| 51. 슈퍼알로이 (인코넬 718, Alloy 625 및 188) | 55. KOVAR (Fe-Ni-Co) |
| 52. 인코넬 (알루미늄 코팅) : 항공우주용 웨스너 | 56. 코발트베이스 슈퍼알로이 |
| 52-1. 인코넬 부품 표면부 관찰 | 57. Inconel 718 |
| 53. 공구강 (H-11VM) 웨스너 | 58. Quenched and Tempered 4140 Steel |
| 54. 질화공구강(H13) PVD 코팅 | |



PowerCut 10x™ Abrasive Cut-Off Saw



WELL 3500 Premium Diamond Wire Cutting System



TechPress3™ Hydraulic-Pneumatic Mounting Press / 25 mm Mold Assembly

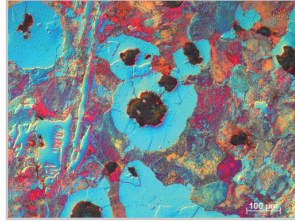


DualPrep3™/PH-4™ Grinding/Polishing System, AD-5™ Automatic Fluid Dispenser

상세 기술자료, 소모품 샘플 및 기술상담이 필요하시면,
(주)진우테크 시편전처리 센터로 연락 주시기 바랍니다
email: info@chinwoo.co.kr 전화: 031-777-1277

1. 시편 종류

- 고탄소강 - Cast Irons(Ductile, gray and white)



nod cast iron 500x CDIC 2

2. 시편 절단 및 성형 공정

Table 1. Cutting Parameters

PowerCut 10x™	
Coolant	Lubri-Cut Cutting Fluid
Wheel Type	Aluminum Oxide
Wheel Bond	Resin
Size	10"

Table 2. Hot Mounting Parameters

TechPress3™	
Mold Size	1.25"
Powder	Black glass-filled epoxy powder
Pre-Heat	Off
Heat Temp/Time	160 °C / 9 min
Cool Time	6 min
Pressure	4.5 bar

3. 연삭 및 연마 공정

Table 3. MetPrep3™ / PH-3™ Grinding/Polishing Procedure

Step	1	2	3	4	5	
Consumables	Abrasive Size (P-Grading)	180 Grit (P-180)	320 Grit (P-400)	600 Grit (P-1200)	1200 Fine Grit (P-4000)	0.04 µm
	Type	Silicon Carbide	Silicon Carbide	Silicon Carbide	Silicon Carbide	Colloidal Silica
	Carrier	Abrasive Disc	Abrasive Disc	Abrasive Disc	Abrasive Disc	Suspension
	Polishing Cloth	-	-	-	-	Final A
	Coolant	Water	Water	Water	Water	Water**
Settings	Platen Speed(RPM) / Direction	300 Comp	300 Comp	300 Comp	300 Comp	150 Comp
	Sample Speed (RPM)	150	150	150	150	150
	Force (lbf/N) †	4/18	4/18	4/18	4/18	4/18
	Time (min)	1*	1	1	2	2-3

* 시편이 평탄 할 때까지 작업

** 물은 연마포를 적시어 세척하는 용도 임

† 1.25" (32밀리몰드) 사용 시: 만일 총 표면면적이 변하는 경우는, 적용하는 압력을 일정하게 유지하기 위해 Force를 조절해 주어야 함.

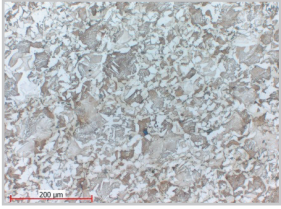
Comp 플래튼, 시편홀더 동일회전 방향

Contra 플래튼, 시편홀더 반대회전 방향

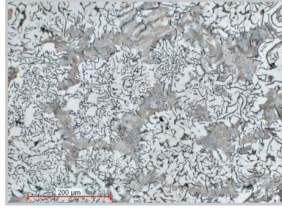
Table 4. AD-5™ Dispensing Parameters

Step	5"
Type	Colloidal Silica Suspension
Pulses/Min	10
Pulse Length	2
Water Flush	On

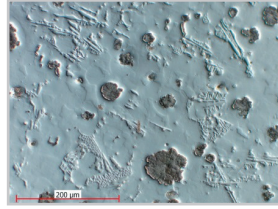
4. 결과 사진



White cast iron, etched,
200x bf



Gray cast iron, etched, 200x



Ductile cast iron, etched,
200x

5. 사용 소모품 소개

- #80-40001 10" Aluminum Oxide Cut-Off Blade, Resin Bond
- #60-40080 10" Resin Bonded CBN Blade
- #80-10130 Lubri-Cut
- #150-10105 Black Glass-Filled Epoxy Powder
- #200-10006 PTFE Spray Mold Release
- #50-10055 180 Grit Silicon Carbide Abrasive Disc
- #50-10065 320 Grit Silicon Carbide Abrasive Disc
- #50-10075 600 Grit Silicon Carbide Abrasive Disc
- #50-10077 1200 Fine Grit Silicon Carbide Abrasive Disc
- #180-25000 0.04 μm Colloidal Silica Suspension
- #90-209000 GreenLube Polishing Lubricant
- #180-10705 Final A Polishing Cloth
- #148-10000 Micro Organic Soap
- #200-20000 Compressed Air Spray
- #95-10230 GP Cleaning Solution

** 소모품 샘플은 무료로 제공해 드리고 있습니다

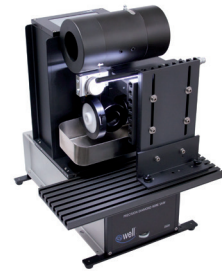
6. 참조자료

50 ~ 99 : 주철

51. 회 주철, 구상흑연 주철 등
52. 구상흑연주철
53. 회 주철 (세라믹 필터 내)
54. 회 주철, 구상흑연주철 (알루미늄 주철)



PowerCut 10x™ Abrasive Cut-Off Saw



WELL 3500 Premium Diamond
Wire Cutting System



TechPress3™ Hydraulic-Pneumatic Mounting
Press / 1 1/4" Mold Assembly

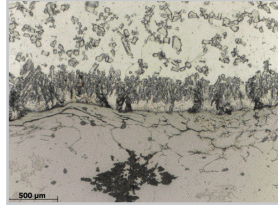


MetPrep3™ / PH-3™ Grinding/ Polishing
System, AD-5™ Automatic Fluid Dispenser

상세 기술자료, 소모품 샘플 및 기술상담이 필요하시면, (주)진우테크 시편전처리 센터로 연락 주시기 바랍니다
email: info@chinwoo.co.kr 전화: 031-777-1277

1. 시편 종류

- 아연도금 강판 (Zinc coating)



Zinc-Steel Interface of a Galvanized Coating 50x BF

2. 시편 절단 및 성형 공정

Table 1. Cutting Parameters

NEW TechCut 5x™	
Coolant	Lubri-Cut Cutting Fluid
Wheel Type	Aluminum Oxide
Wheel Bond	Resin
Size	8"
Wheel RPM	3500
Feed Rate	5.00 mm/min

Table 2. Cold Mounting Parameters

EpoxySet	
Mold Size	1.25" (32 mm)
Mix Ratio (weight) Resin : Hardener	100 : 12
Cure Time	8 Hours

3. 연삭 및 연마 공정

Table 3. MetPrep4™ / PH-6™ Grinding/Polishing Procedure

Step	1	2	3	4	5	
Consumables	Abrasive Size (P-Grading)	320 Grit (P-400)	9 μm	6 μm	1 μm	0.25 μm
	Type	Silicon Carbide	Polycrystalline Diamond	Polycrystalline Diamond	Polycrystalline Diamond	Polycrystalline Diamond
	Carrier	Abrasive Disc	Glycol Suspension	Glycol Suspension	Glycol Suspension	Glycol Suspension
	Polishing Cloth	-	Gold Label	White Label	White Label	Final-POL
	Coolant	Water	PurpleLube (RedLube)	PurpleLube (RedLube)	PurpleLube (RedLube)	PurpleLube (RedLube)
Settings	Platen Speed(RPM) / Direction	300 Comp	300 Comp	150 Comp	150 Comp	150 Comp
	Sample Speed (RPM)	150	150	150	150	150
	Force (lbf/N) +	5/22	5/22	5/22	5/22	4/18
	Time (min)	Until Flat*	3	3	3	1-2

* 시편이 평탄 할 때까지 작업

** 물은 연마포를 적시어 세척하는 용도 임

+ 1.25" (32밀리미터) 사용 시: 만일 총 표면면적이 변하는 경우는, 적용하는 압력을 일정하게 유지하기 위해 Force를 조절해 주어야 함.

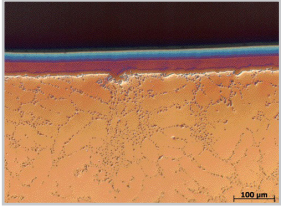
Comp 플래튼, 시편홀더 동일회전 방향

Contra 플래튼, 시편홀더 반대회전 방향

Table 4. AD-5™ Dispensing Parameters

Step	2-5
Type	Diamond Suspension & PurpleLube (RedLube)
Pulses/Min	6
Pulse Length	0.5 sec
Water Flush	Off

4. 결과 사진



Cast Aluminum with Copper and Nickel Coatings



Water sensitive zinc coating, as-polished, 500x, Brightfield

5. 사용 소모품 소개

- #80-11710 8" Resin Bonded Aluminum Oxide Blade
- #80-10130 Lubri-Cut
- #145-20000 EpoxySet Kit
- #197-10005 1¼" 2-Part Mounting Cups
- #50-10065 320 Grit Silicon Carbide Abrasive Disc
- #90-30030 9 µm Polycrystalline Diamond Suspension
- #90-30025 6 µm Polycrystalline Diamond Suspension
- #90-30015 1 µm Polycrystalline Diamond Suspension
- #90-30005 0.25 µm Polycrystalline Diamond Suspension
- #90-207000 RedLube Polishing Lubricant
- #90-205000 PurpleLube Polishing Lubricant
- #90-700-210 Gold Label Rigid Back Disc
- #90-700-500 White Label Rigid Back Disc
- #90-700-705 Final-POL Polishing Cloth
- #200-20000 Aero-Duster Compressed Air

** 소모품 샘플은 무료로 제공해 드리고 있습니다

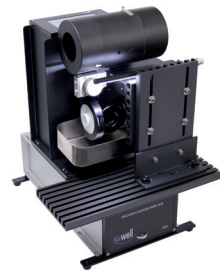
6. 참조자료

분류 목록 명 : 코팅재료

1. 아연도금 강판
2. Co-WC MMC 코팅된 절단날
3. 확산 코팅된 백금 및 니켈 알루미늄아이드 (Aluminide)
4. 다이아몬드 코팅 WC (나노인덴테이션 시편)
5. 크롬코팅 세라믹
6. 아연도금 강판
7. 흑색코팅 스텐레스스틸
8. 황동 및 포리마 코팅 된 저탄소강
9. 테프론코팅철계소결재료
10. 황동분말코팅 금속
11. 질화공구강(H13) PVD 코팅
12. Ag & Cu 코팅 Al
13. 세라믹 코팅된 크롬
14. 마그네슘(EV31) substrate에 6061 알루미늄합금 Cold spray coating
15. TiN, NICRALY, Zirconia, Ti 코팅 (철강 base)
16. WC 코팅된 탄소강
17. 페인팅된 탄소강
18. 갈바나이즈 스틸
19. 질화코팅 스틸



NEW TechCut 5x™ Precision High Speed Saw



WELL 3500 Premium Diamond Wire Cutting System



TechPress3™ Hydraulic-Pneumatic Mounting Press / 1 1/4" Mold Assembly



MetPrep3™ / PH-3™ Grinding/ Polishing System, AD-5™ Automatic Fluid Dispenser

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