

2021 학년도 기계공학과 CADD (MEE1002)

CADD(Computer Aided Design and Drafting)

한양대학교
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Prof. Keun Ryu

2021년 10월 25일



HANYANG UNIVERSITY



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- II 예제 도면을 통한 실습

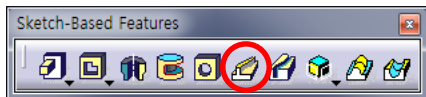
CADD (Computer Aided Design and Drafting)

I 3D 실습 (Rib, Slot, Fillet)

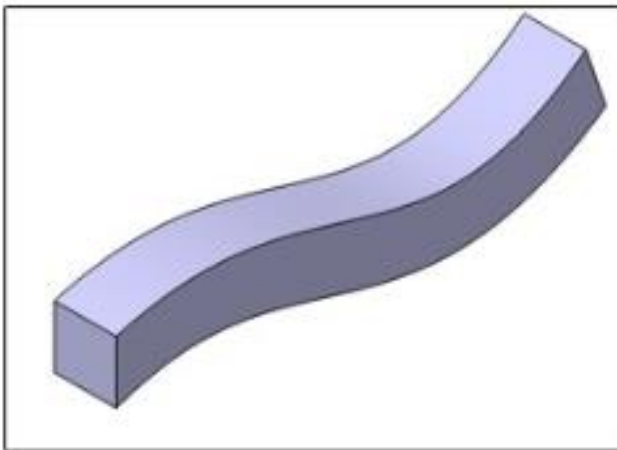
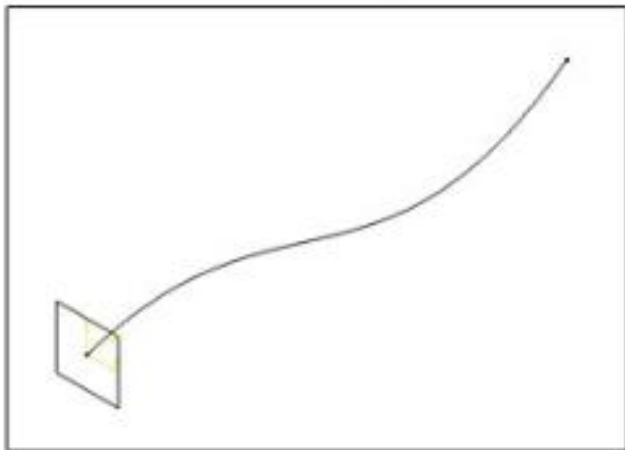
1 CADD (Computer Aided Design and Drafting)

3D 실습 (Rib, Slot, Fillet)

Rib



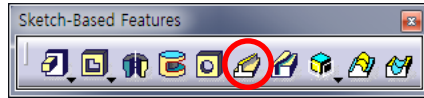
- 단면 Profile이 Center Curve를 따라가며 형상을 생성



1 CADD (Computer Aided Design and Drafting)

3D 실습 (Rib, Slot, Fillet)

Rib



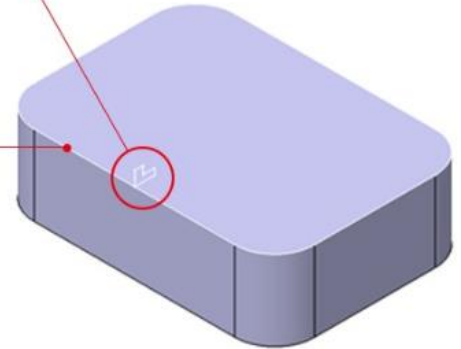
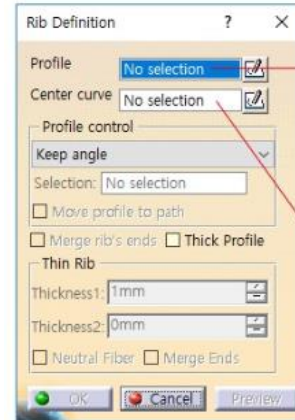
• Rib 생성 과정

- ① Rib icon 실행
- ② Profile, Center Curve 선택
- ③ Profile control 에서 원하는 기능 선택
- ④ Profile Center Curve 를 따라가며 형상을 생성

①



②

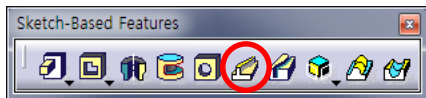


1

CADD (Computer Aided Design and Drafting)

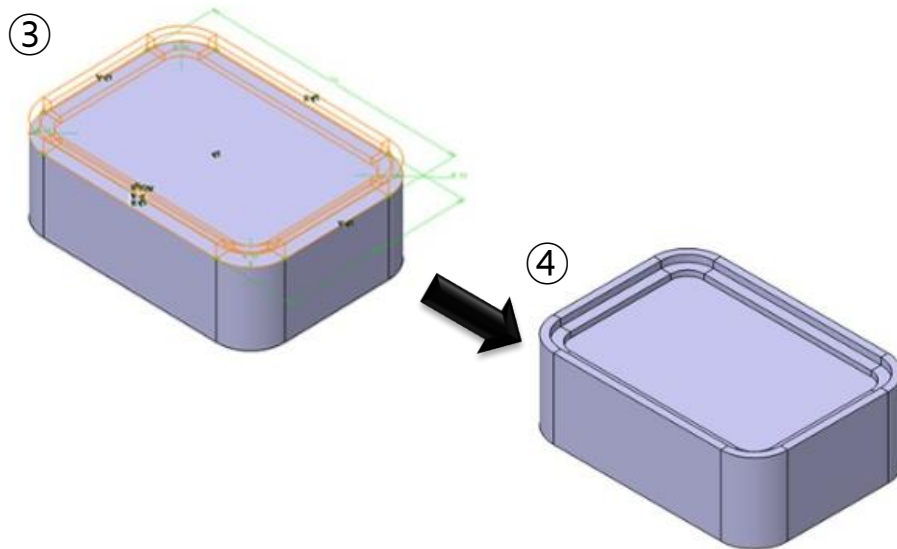
3D 실습 (Rib, Slot, Fillet)

Rib



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- ① Rib icon 실행
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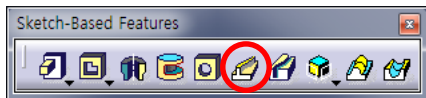


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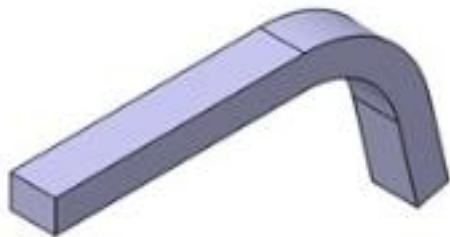
CADD(Computer Aided Design and Drafting)

3D 실습(Rib, Slot, Fillet)

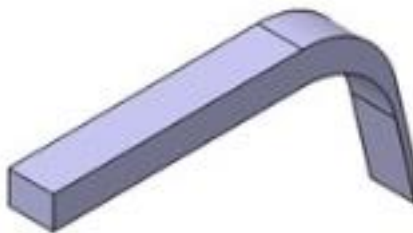
Rib



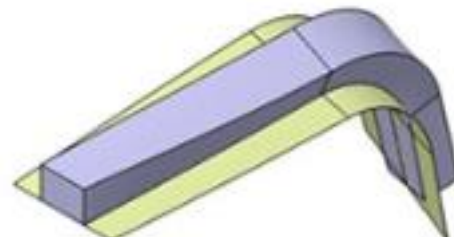
- Profile Control
 - **Keep Angle** : Center Curve에 항상 Normal하게 Profile 형상을 생성
 - **Pulling Direction** : 선택한 Pulling Direction에 항상 Normal하게 생성
 - **Reference Surface** : 선택한 곡면과 Profile의 H축이 일정 각을 유지하면서 생성



Keep Angle



Pulling Direction



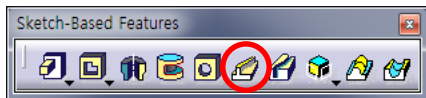
Reference Surface

1

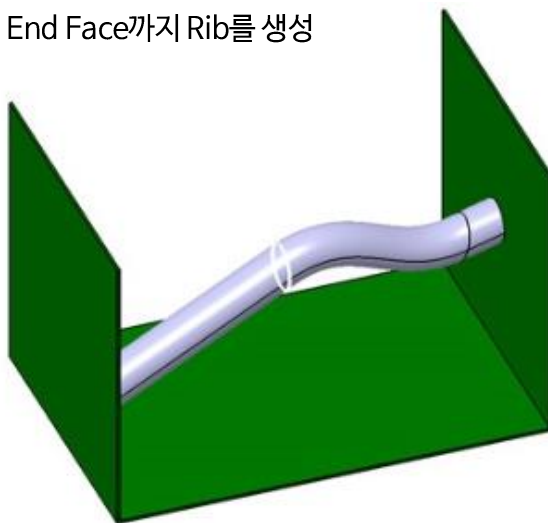
CADD (Computer Aided Design and Drafting)

3D 실습 (Rib, Slot, Fillet)

Rib



- Merge rib's ends
 - Center Curve를 Tangency하게 연장하여 End Face까지 Rib를 생성



1

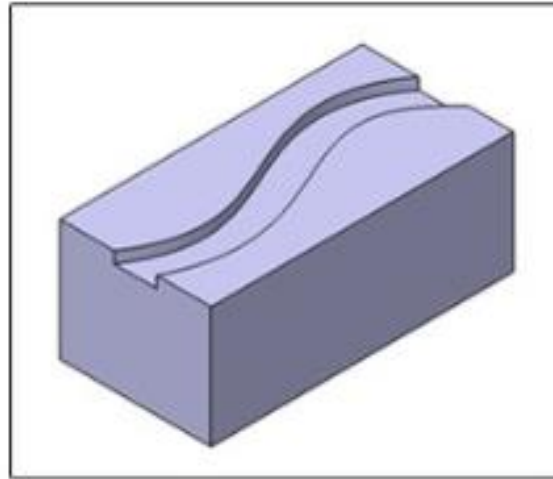
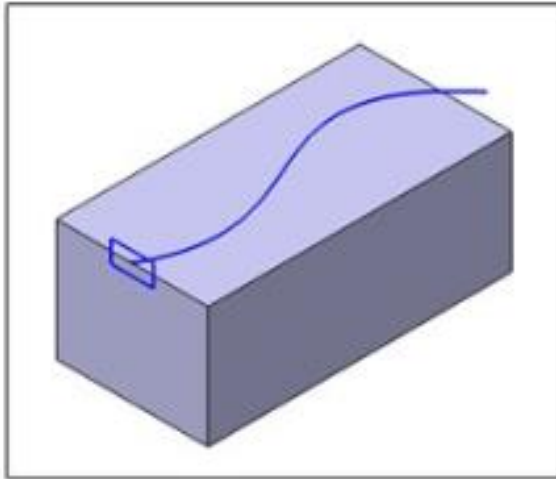
CADD (Computer Aided Design and Drafting)

3D 실습 (Rib, Slot, Fillet)

Slot



- 단면 Profile이 Center Curve를 따라가며 형상을 제거



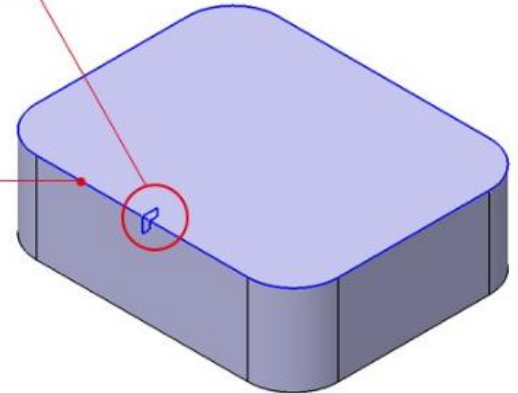
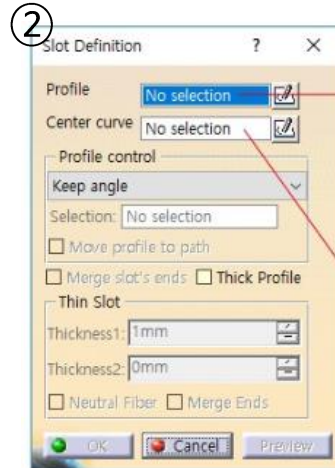
1 CADD (Computer Aided Design and Drafting)

3D 실습 (Rib, Slot, Fillet)

Slot



- Slot 생성 과정
 - ① Slot icon 실행
 - ② Profile, Center Curve 선택
 - ③ Profile control 에서 원하는 기능 선택
 - ④ Profile Center Curve 를 따라가며 형상을 생성



1

CADD (Computer Aided Design and Drafting)

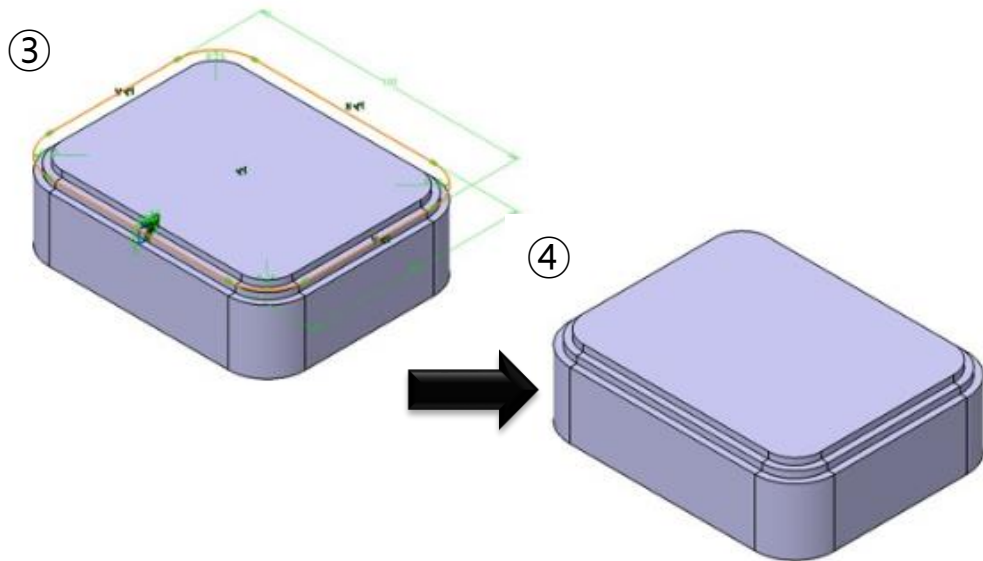
3D 실습 (Rib, Slot, Fillet)

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• Slot 생성 과정

- ① Slot icon 실행
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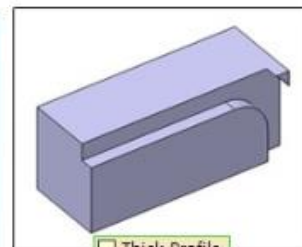
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3D 실습 (Rib, Slot, Fillet)

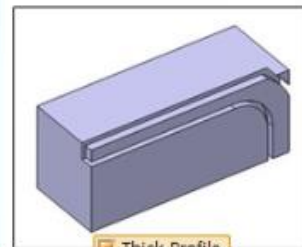
Slot



- **Profile Control**
 - **Keep Angle** : Center Curve에 항상 Normal하게 Profile 형상을 제거
 - **Pulling Direction** : 선택한 Pulling Direction에 항상 Normal하게 제거
 - **Reference Surface** : 선택한 곡면과 Profile의 H축이 일정 각을 유지하면서 제거
- **Merge rib's ends**
 - Center Curve를 Tangency하게 연장하여 End Face까지 Rib를 제거
- **Thick Profile**
 - Profile에 두께를 부여하여 형상을 제거



Thick Profile



Thick Profile

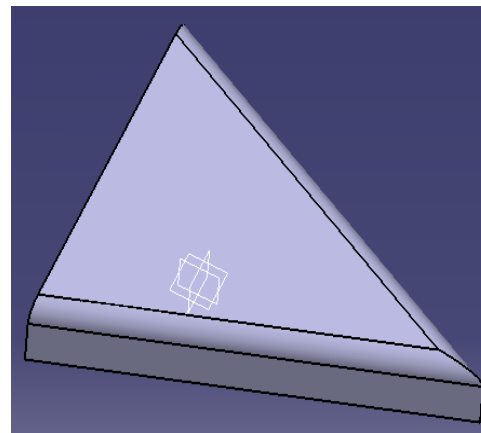
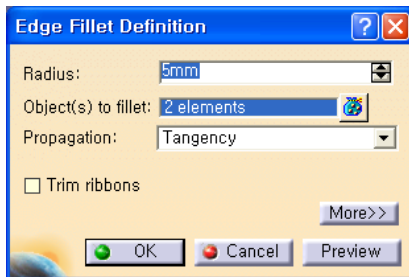
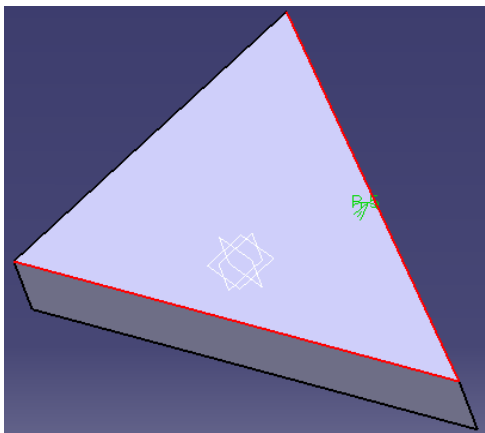
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3D 실습(Rib, Slot, Fillet)

Edge Fillet



- 각 Edge에 Fillet을 생성



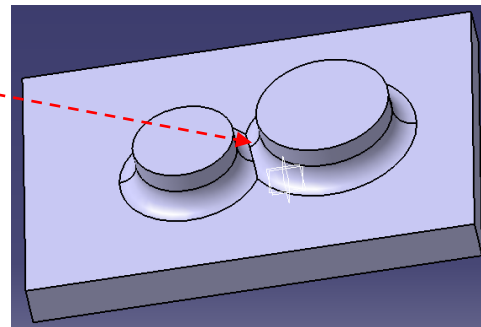
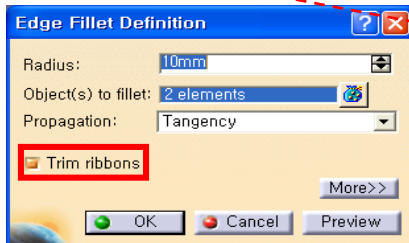
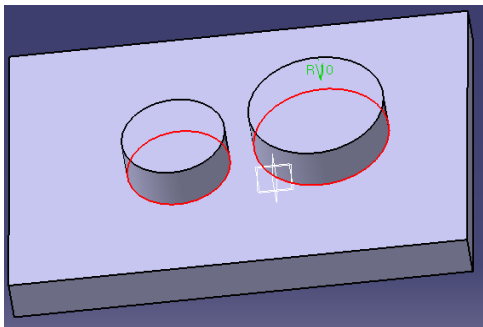
1 CADD (Computer Aided Design and Drafting)

3D 실습 (Rib, Slot, Fillet)

Edge Fillet



- Trim ribbons : 두 Fillet이 만나는 부위를 매끄럽게 이어준다



1

CADD (Computer Aided Design and Drafting)

3D 실습 (Stiffner, Solid, Dress-up features)

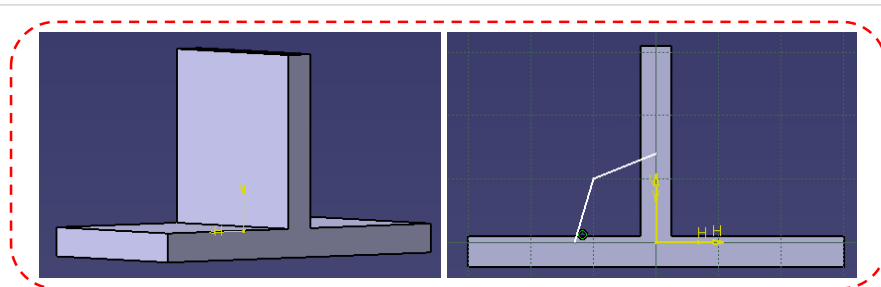
Stiffner



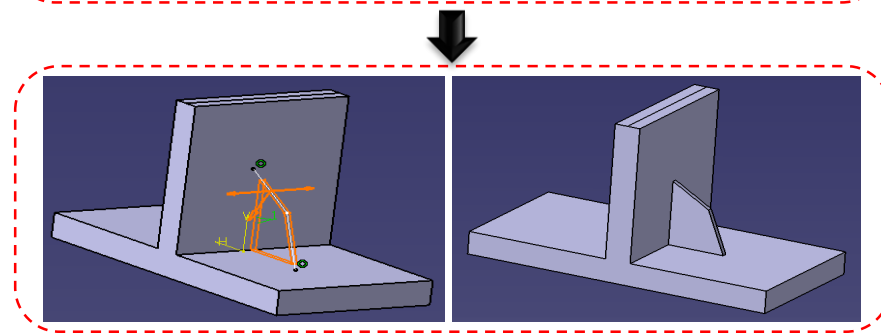
- Profile로 Solid 외부에 보강재 생성

- ① Stiffner를 생성할 Solid에 보강재 형상의 Sketch를 그린다
- ② Stiffner 아이콘을 클릭 후 보강재를 생성한다

①



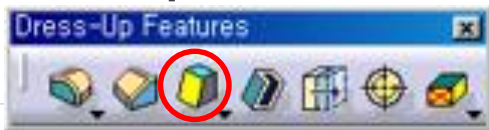
②



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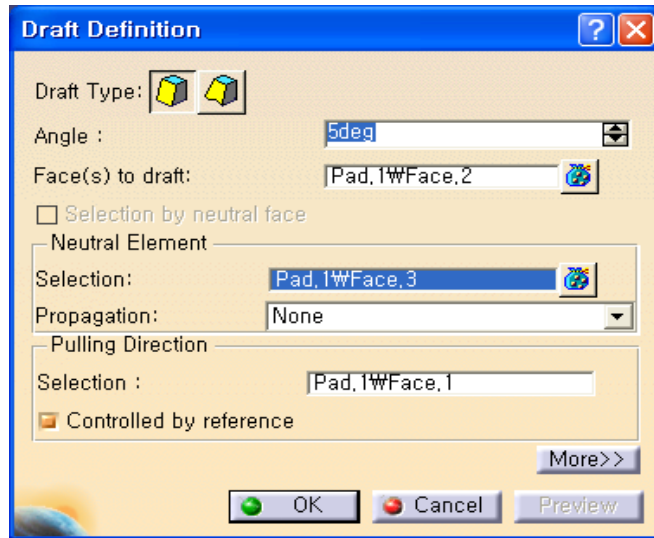
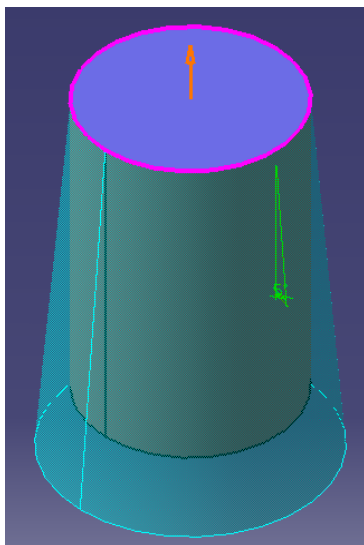
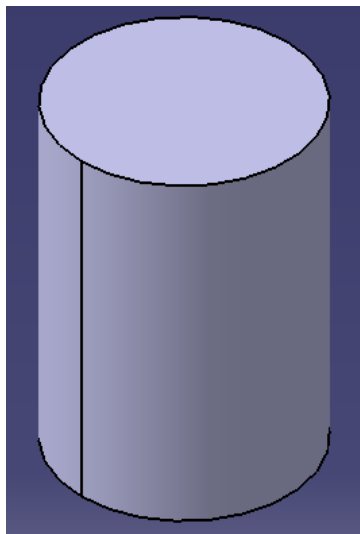
3D 실습 (Stiffner, Solid, Dress-up features)



Draft



각각의 선택된 면에 각도를 주어서 잘라낸다

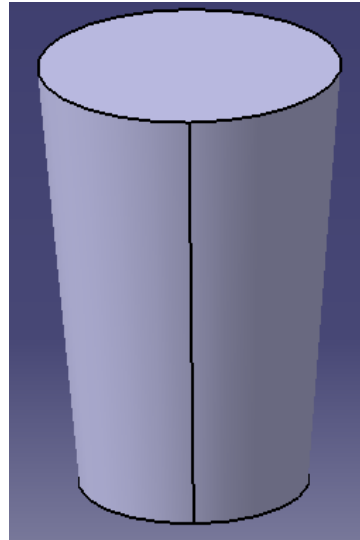
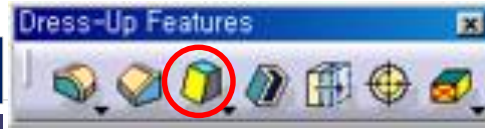
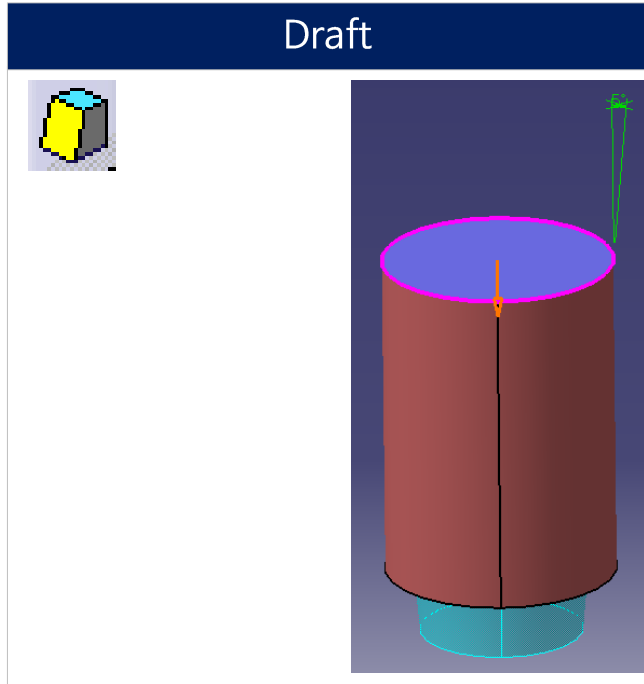


화살표를 누르면 반대방향으로 Draft Angle이 실행된다

1

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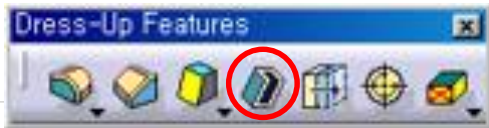
3D 실습 (Stiffner, Solid, Dress-up features)



1

CADD (Computer Aided Design and Drafting)

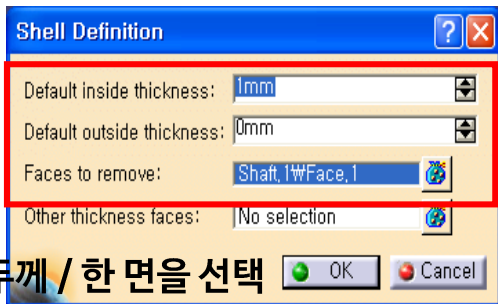
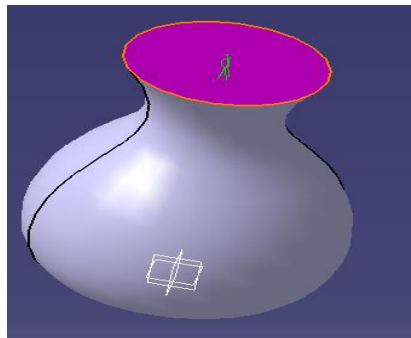
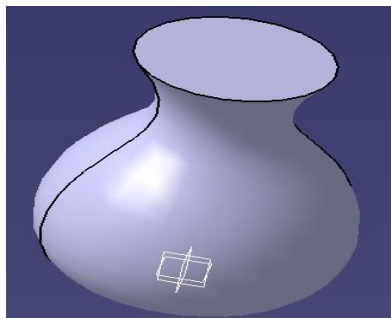
3D 실습 (Stiffner, Solid, Dress-up features)



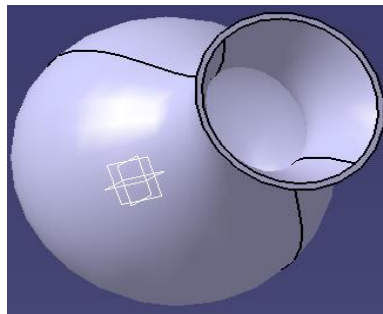
Shell



- 원하는 두께의 외관을 남기고 내부의 Solid 제거



두께 / 한 면을 선택



1

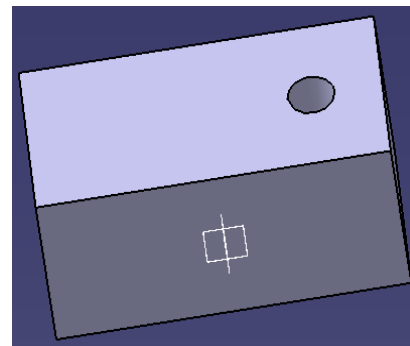
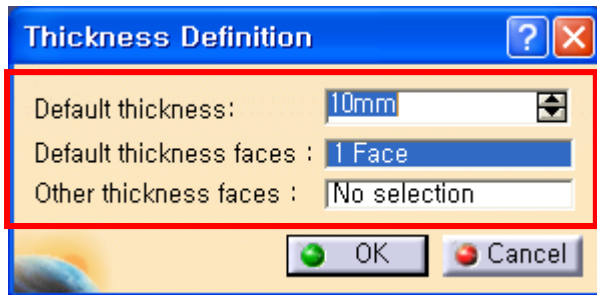
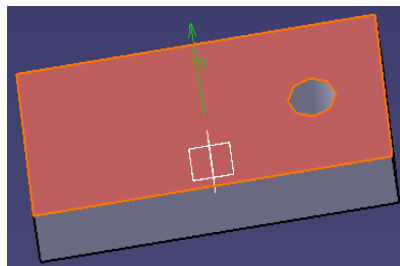
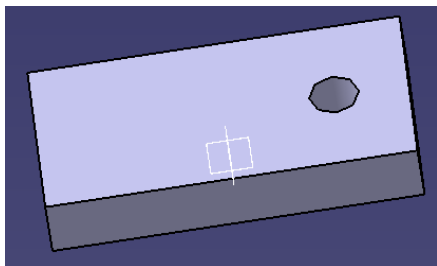
CADD (Computer Aided Design and Drafting)

3D 실습 (Stiffener, Solid, Dress-up features)

Thickness



- 임의의 방향으로 두께를 부여



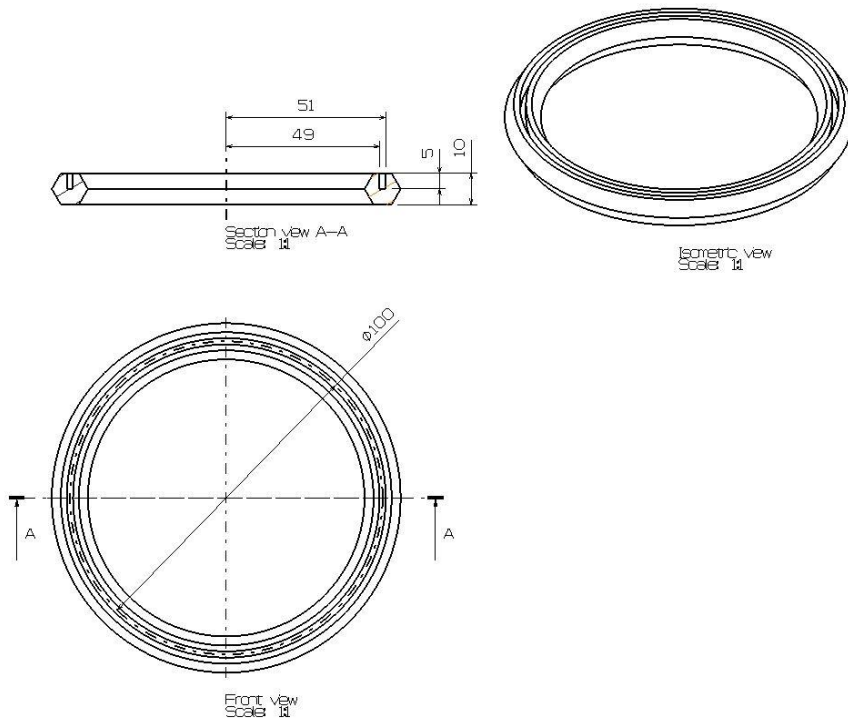
두께 / 한 면을 선택

CADD (Computer Aided Design and Drafting)

예제 도면을 통한 실습

3 CADD (Computer Aided Design and Drafting)

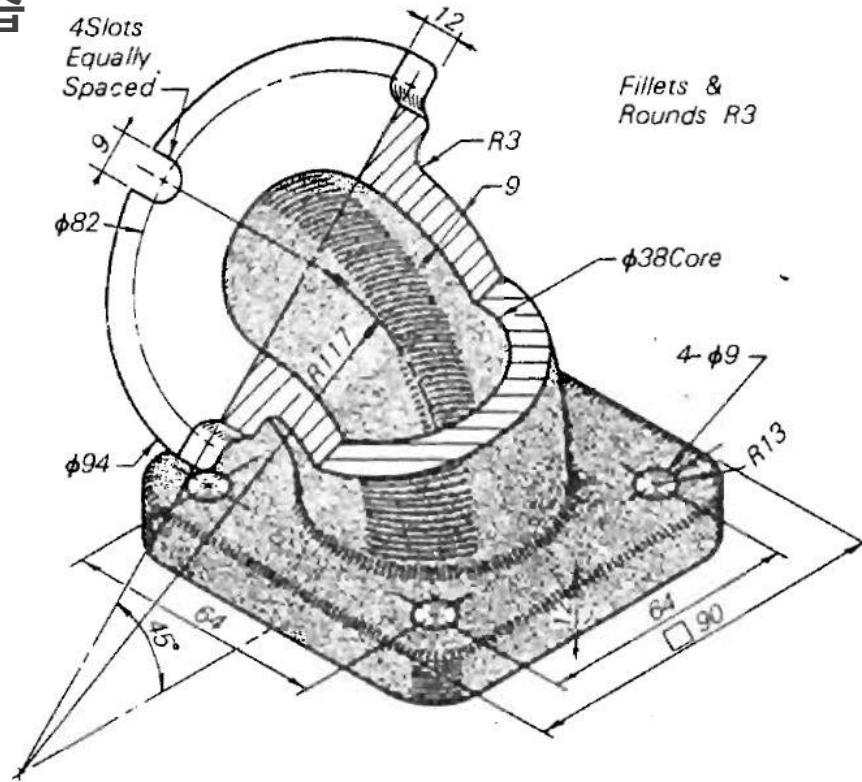
예제 도면을 통한 실습



3

CADD (Computer Aided Design and Drafting)

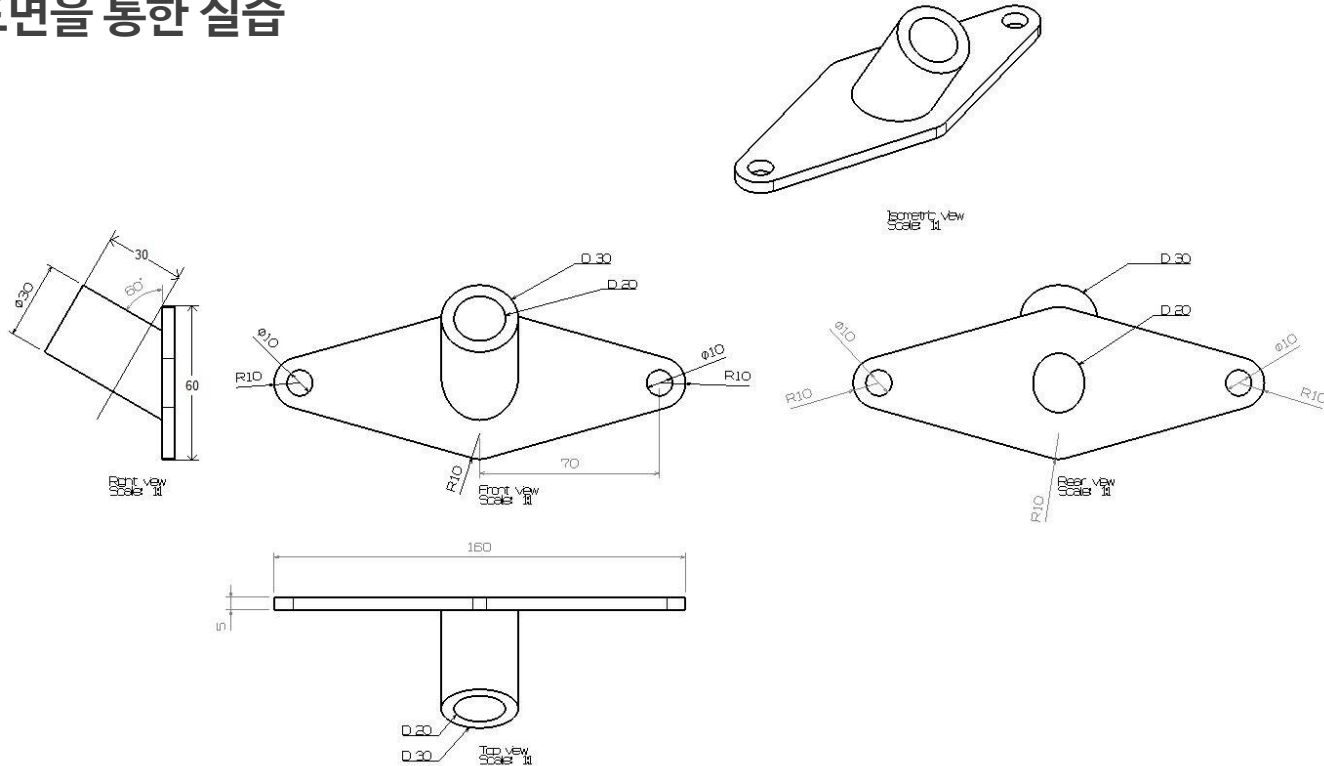
예제 도면을 통한 실습



3

CADD (Computer Aided Design and Drafting)

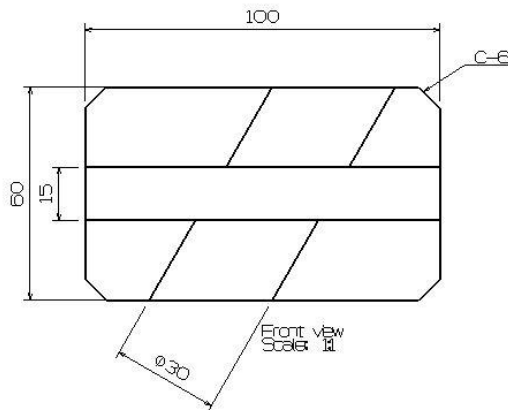
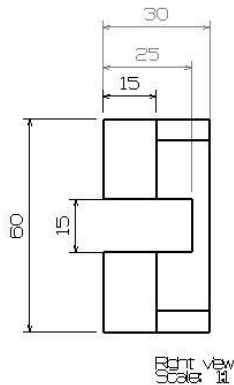
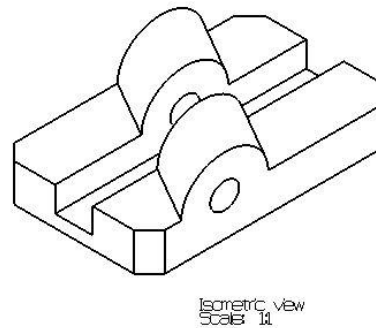
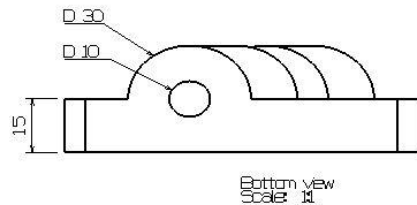
예제 도면을 통한 실습



3

CADD (Computer Aided Design and Drafting)

예제 도면을 통한 실습



감사합니다