

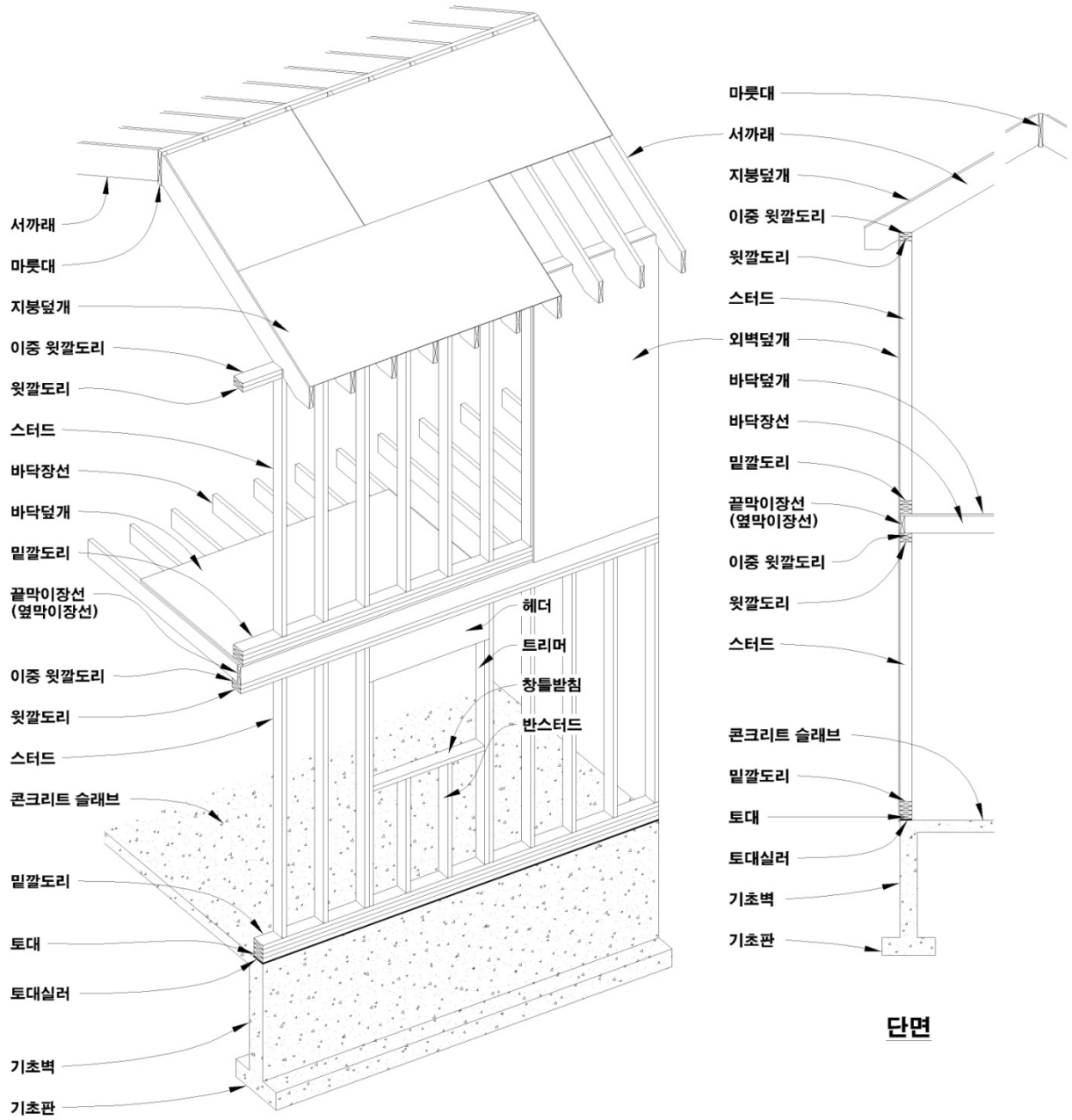


목조 PLAYHOUSE 모형주택 시삽을 통한

## 목조주택 이해하기



# 경골목구조 골조의 이해



## 구조용 목재 치수

구분	호칭치수		실제치수			
	mm	inch	건조재 **		생재 ***	
			mm	inch	mm	inch
1종구조재 (규격재)	50 x 50	2 x 2	38 x 38	1-1/2 x 1-1/2	40 x 40	1-9/16 x 1-9/16
	75	3	64	2-1/2	66	2-9/16
	100	4	89	3-1/2	91	3-9/16
	125	5	114	4-1/2	117	4-5/8
	150	6	140	5-1/2	143	5-5/8
	200	8	184	7-1/4	190	7-1/2
	250	10	235	9-1/4	241	9-1/2
	300	12	286	11-1/4	292	11-1/2
	75 x 75	3 x 3	64 x 64	2-1/2 x 2-1/2	66 x 66	2-9/16 x 2-9/16
	100	4	89	3-1/2	91	3-9/16
	125	5	114	4-1/2	117	4-5/8
	150	6	140	5-1/2	143	5-5/8
	200	8	184	7-1/4	190	7-1/2
	250	10	235	9-1/4	241	9-1/2
	300	12	286	11-1/4	292	11-1/2
	100 x 100	4 x 4	89 x 89	3-1/2 x 3-1/2	91 x 91	3-9/16 x 3-9/16
	125	5	114	4-1/2	117	4-5/8
	150	6	140	5-1/2	143	5-5/8
	200	8	184	7-1/4	190	7-1/2
	250	10	235	9-1/4	241	9-1/2
300	12	286	11-1/4	292	11-1/2	
2종구조재 (보재)	125 x 200	5 x 8	-	-	117 x 190	4-5/8 x 7-1/2
	250	10	-	-	241	9-1/2
	300	12	-	-	292	11-1/2
	150 x 250	6 x 10	-	-	143 x 241	5-5/8 x 9-1/2
	300	12	-	-	292	11-1/2
	200 x 300	8 x 12	-	-	190 x 292	7-1/2 x 11-1/2
3종구조재 (기등재)	125 x 125	5 x 5	-	-	117 x 117	4-5/8 x 4-5/8
	150	6	-	-	143	5-5/8
	150 x 150	6 x 6	-	-	143 x 143	5-5/8 x 5-5/8
	200	8	-	-	190	7-1/2
	200 x 200	8 x 8	-	-	190 x 190	7-1/2 x 7-1/2
	250	10	-	-	241	9-1/2
	250 x 250	10 x 10	-	-	241 x 241	9-1/2 x 9-1/2
	300	12	-	-	292	11-1/2
300 x 300	12 x 12	-	-	292 x 292	11-1/2 x 11-1/2	

## 구조용 목질판재 치수

### 구조용 합판

구 분	규 격 (mm)
	두께 x 나비 x 길이
구조용 합판	7.5 x 1,220 x 2,440
	9.5 x 1,220 x 2,440
	12.5 x 1,220 x 2,440
	15.5 x 1,220 x 2,440
	18.5 x 1,220 x 2,440
	20.5 x 1,220 x 2,440
	22.5 x 1,220 x 2,440
	25.5 x 1,220 x 2,440
	28.5 x 1,220 x 2,440
	31.5 x 1,220 x 2,440

- \* 바닥덮개 - 두께 18mm 이상 (KBC 0807.3.2), 티엔지
- \* 벽덮개 - 두께 12mm 이상 (KBC 0807.4.3), 맞댄 이음
- \* 지붕덮개 - 두께 12mm 이상 (KBC 0807.5.2), 맞댄 이음

### 오에스비 (OSB)

구 분	규 격 (mm)
	두께 x 나비 x 길이
오에스비 -바닥용	15.1 x 1,220 x 2,440
	15.9 x 1,220 x 2,440
	18.2 x 1,220 x 2,440
	19.0 x 1,220 x 2,440
	22.2 x 1,220 x 2,440
	25.4 x 1,220 x 2,440
	28.6 x 1,220 x 2,440
오에스비 -벽, 지붕용	7.9 x 1,220 x 2,440
	9.5 x 1,220 x 2,440
	11.1 x 1,220 x 2,440
	12.7 x 1,220 x 2,440
	15.1 x 1,220 x 2,440
	15.9 x 1,220 x 2,440
	18.2 x 1,220 x 2,440
19.0 x 1,220 x 2,440	

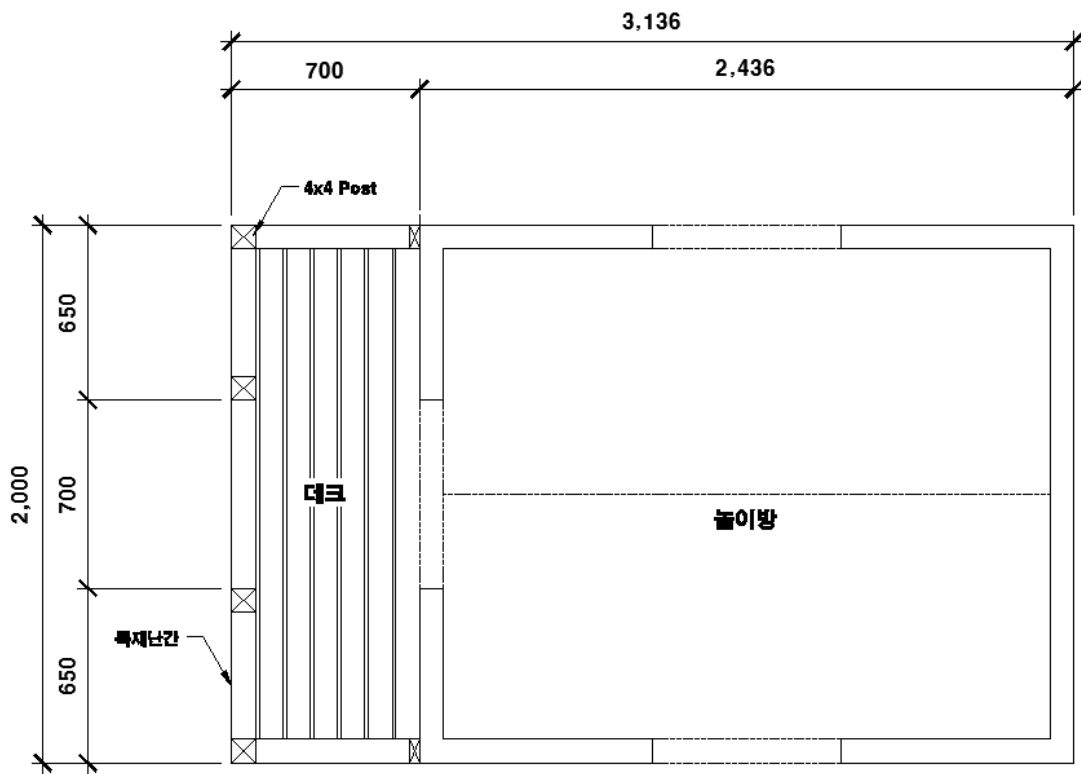
\* 티엔지 오에스비는 두께 15mm 이상에서 제조됨.

## 못 치수

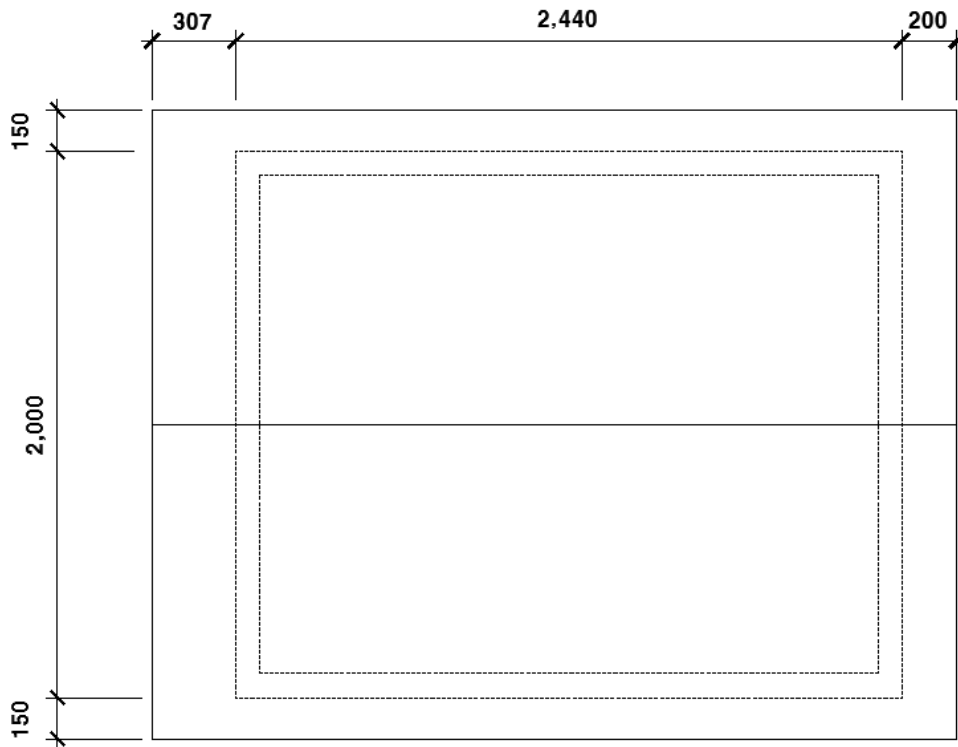
구 분	보통못 (CMN)		박스못 (BXN)	
	지름 (mm)	길이 (mm)	지름 (mm)	길이 (mm)
6 d	2.87	51	2.51	51
8 d	3.32	64	2.87	64
10 d	3.76	76	3.25	76
12 d	3.76	83	3.25	83
16 d	4.11	89	3.43	89
20 d	4.88	102	3.76	102
30 d	5.26	114	3.76	114
40 d	5.72	127	4.11	127
50 d	6.20	140	-	-
60 d	6.68	152	-	-

- \* 구조 내력상 중요한 부분에서 사용하는 못 또는 나사못의 품질기준 : 목조건축용 철못 (KS F 4537), 일반용 철못 (KS D 3553), 석고판용 못 (KS F 3514), 스테인리스강 못 (KS D 7052), 목구조용 철못 (KS F 4514), 십자홈 나사못 (KS B 1056).
- \* 못박기 기준 : KBC <표 0807.3.2>

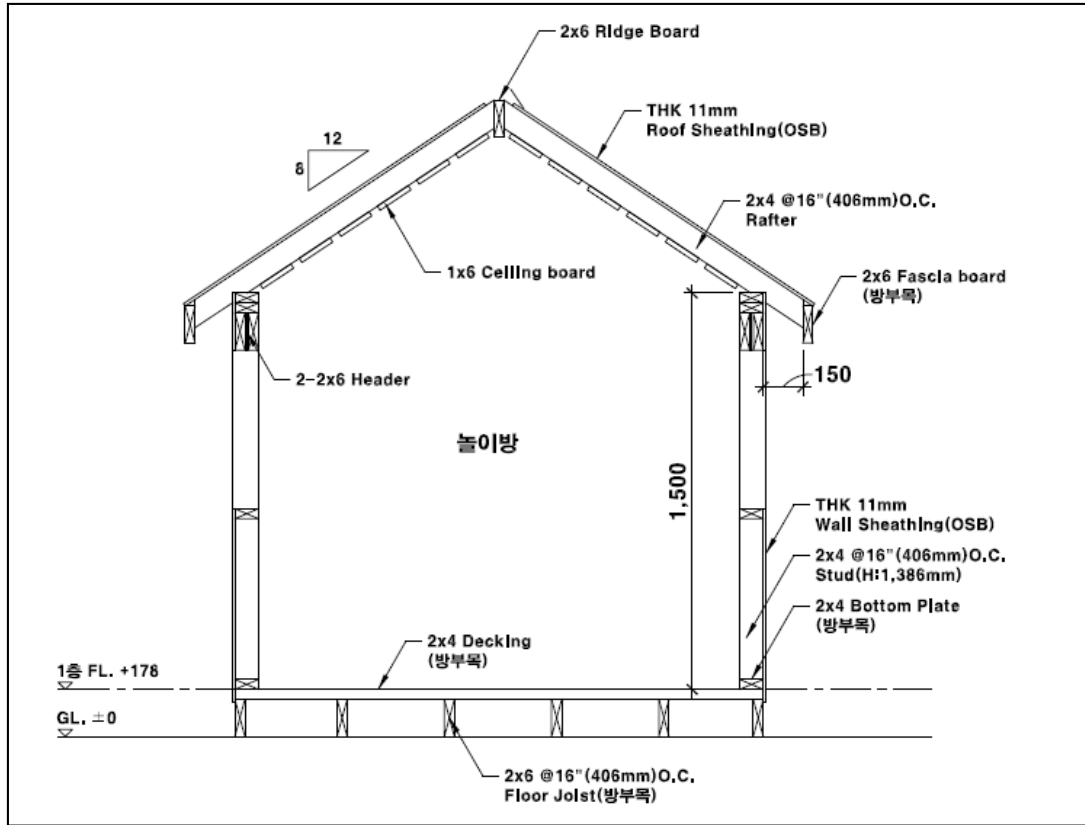
# Playhouse 도면



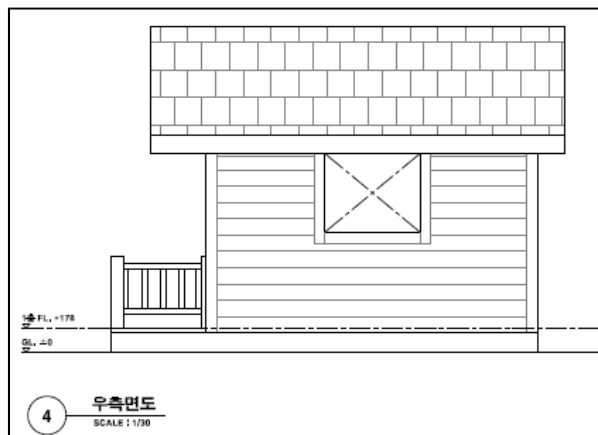
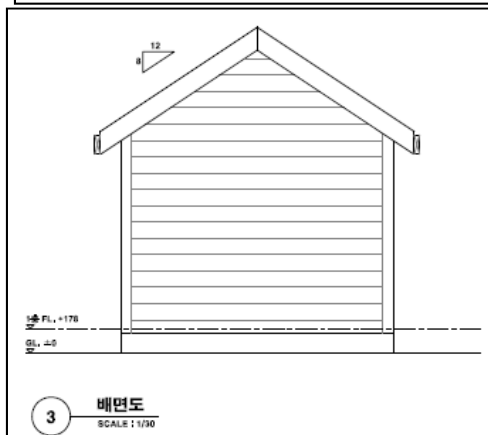
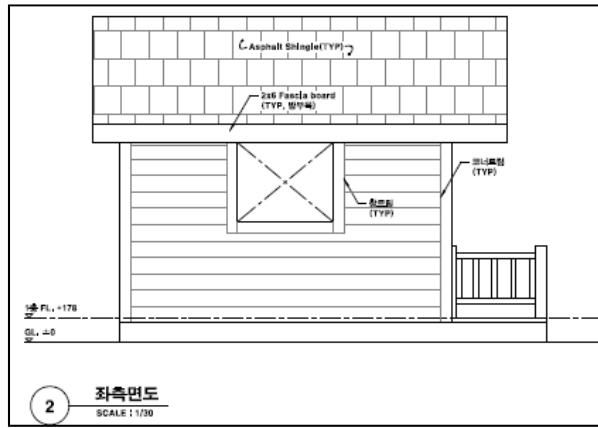
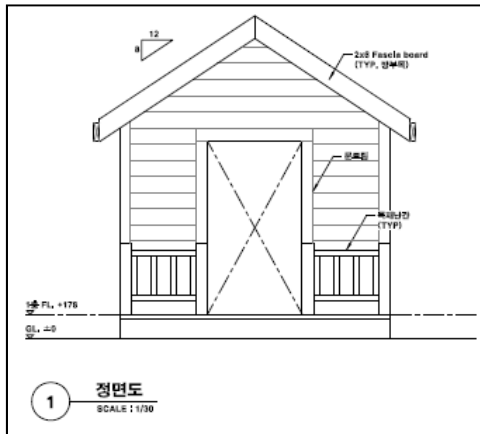
평면도



지붕평면도



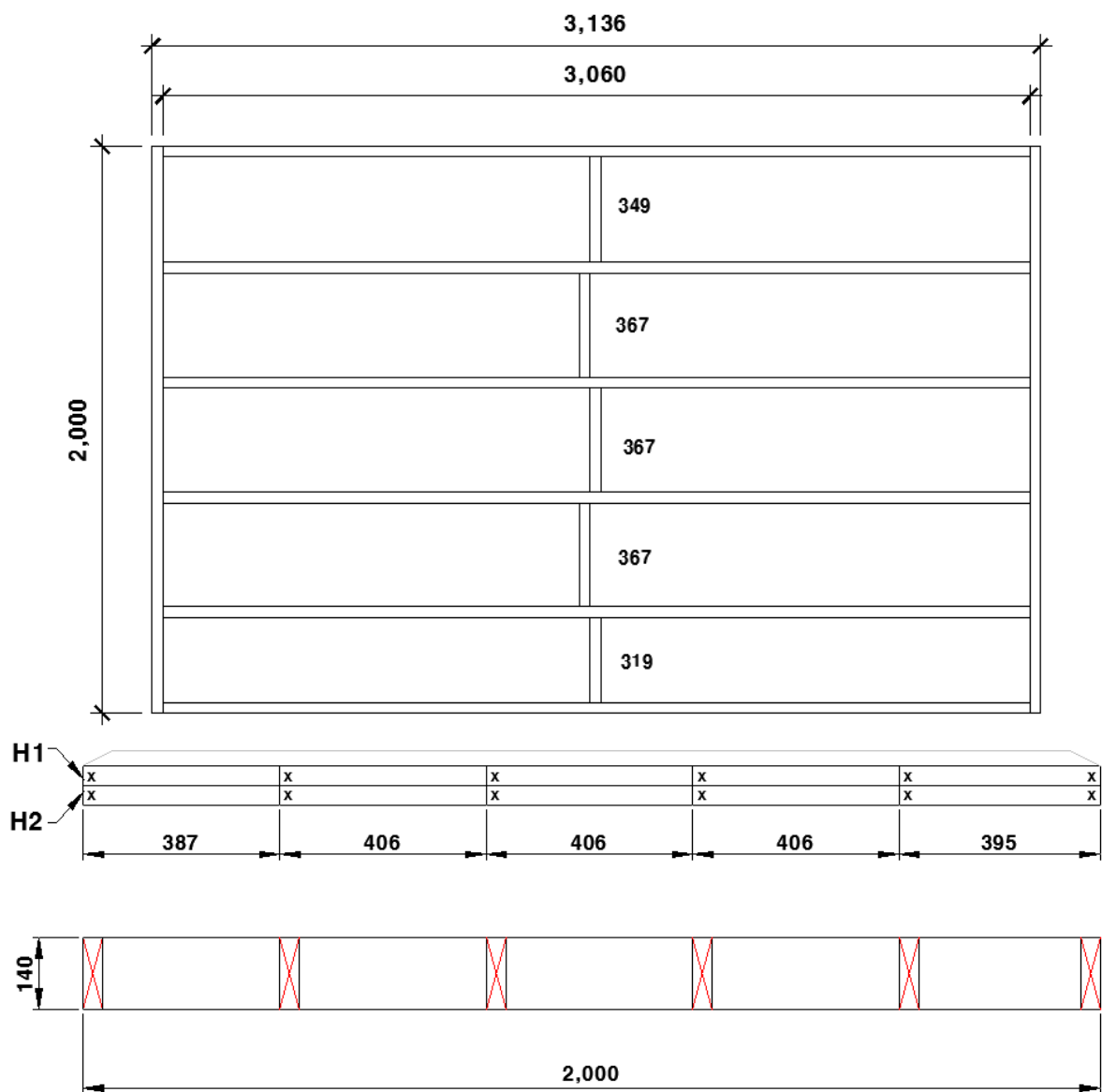
단면도



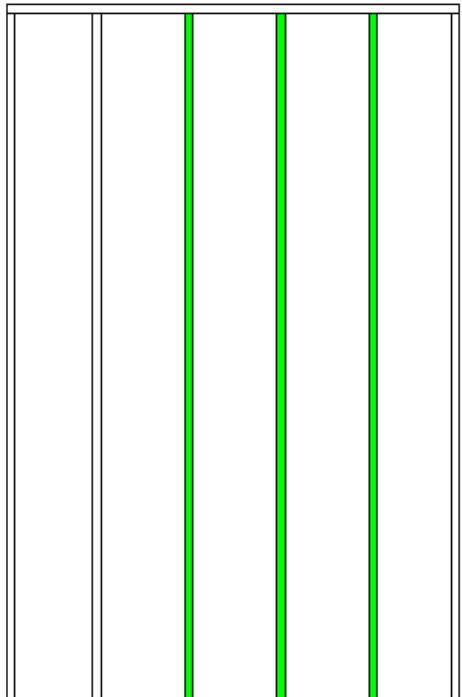
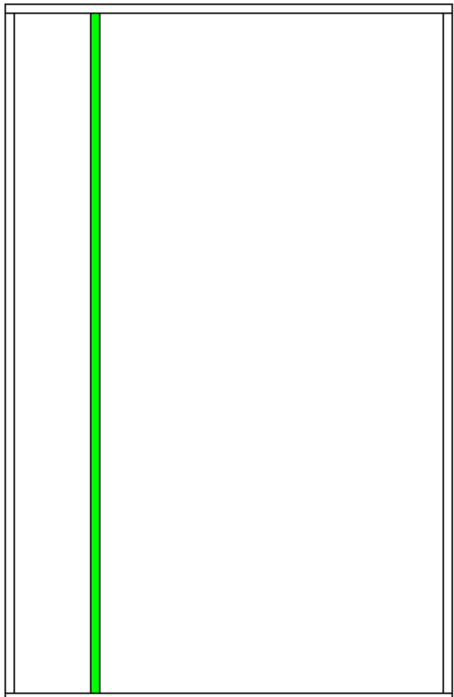
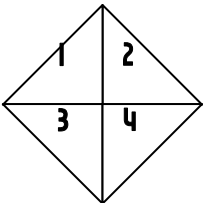
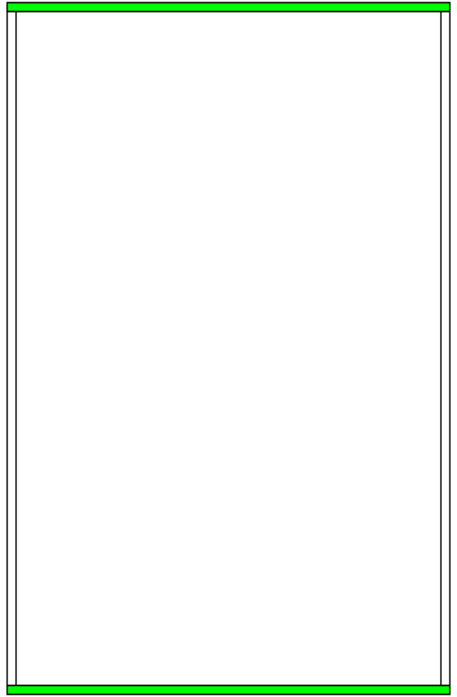
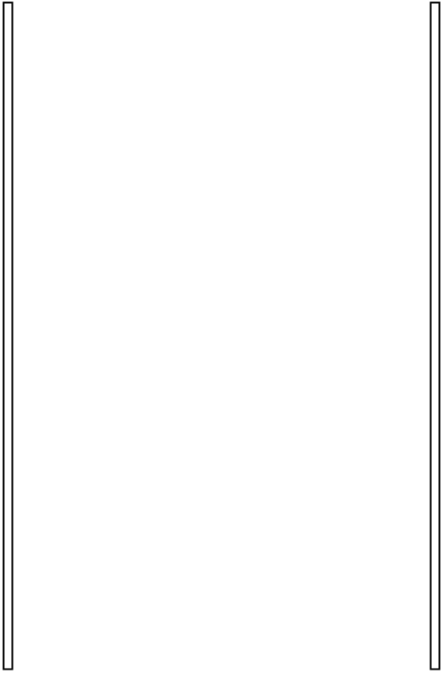
## 바닥골조 시공

자재	용도	길이(mm)	수량	비고
2x6	Floor Joist	3,060	6ea	T.W
2x6	Header Joist	2,000	2ea	T.W
2x6	Blocking	349	1ea	T.W
2x6	Blocking	367	3ea	TW
2x6	Blocking	319	1ea	TW

## 바닥장선 레이아웃

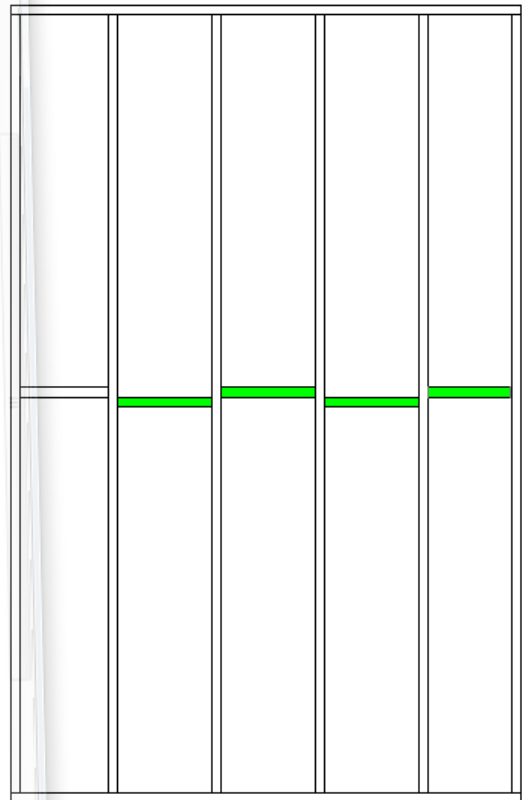
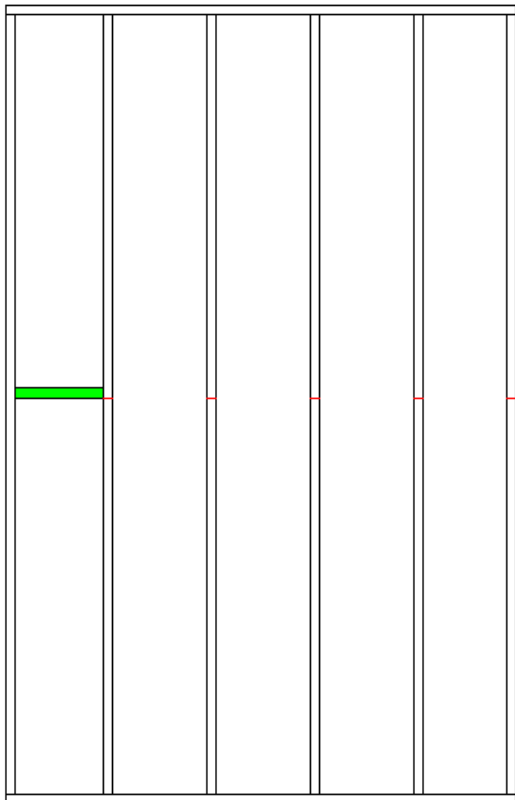
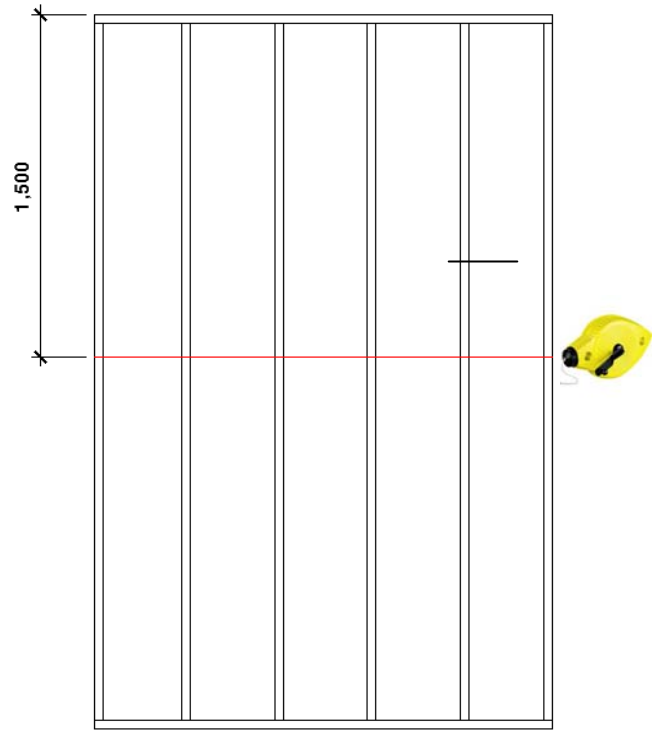
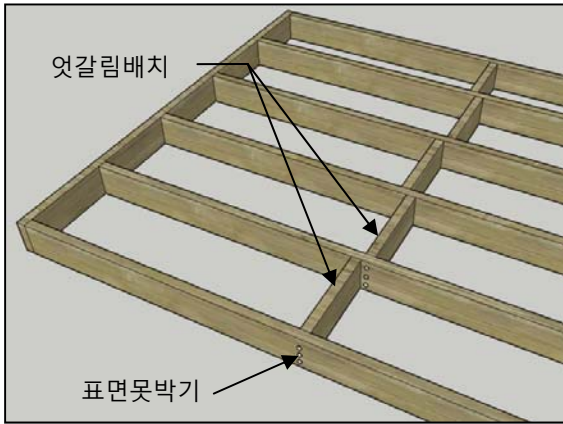


## 바닥장선 설치

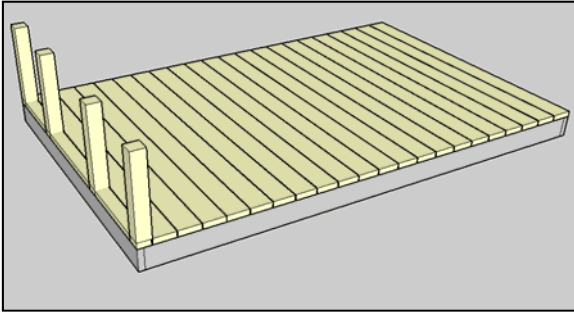




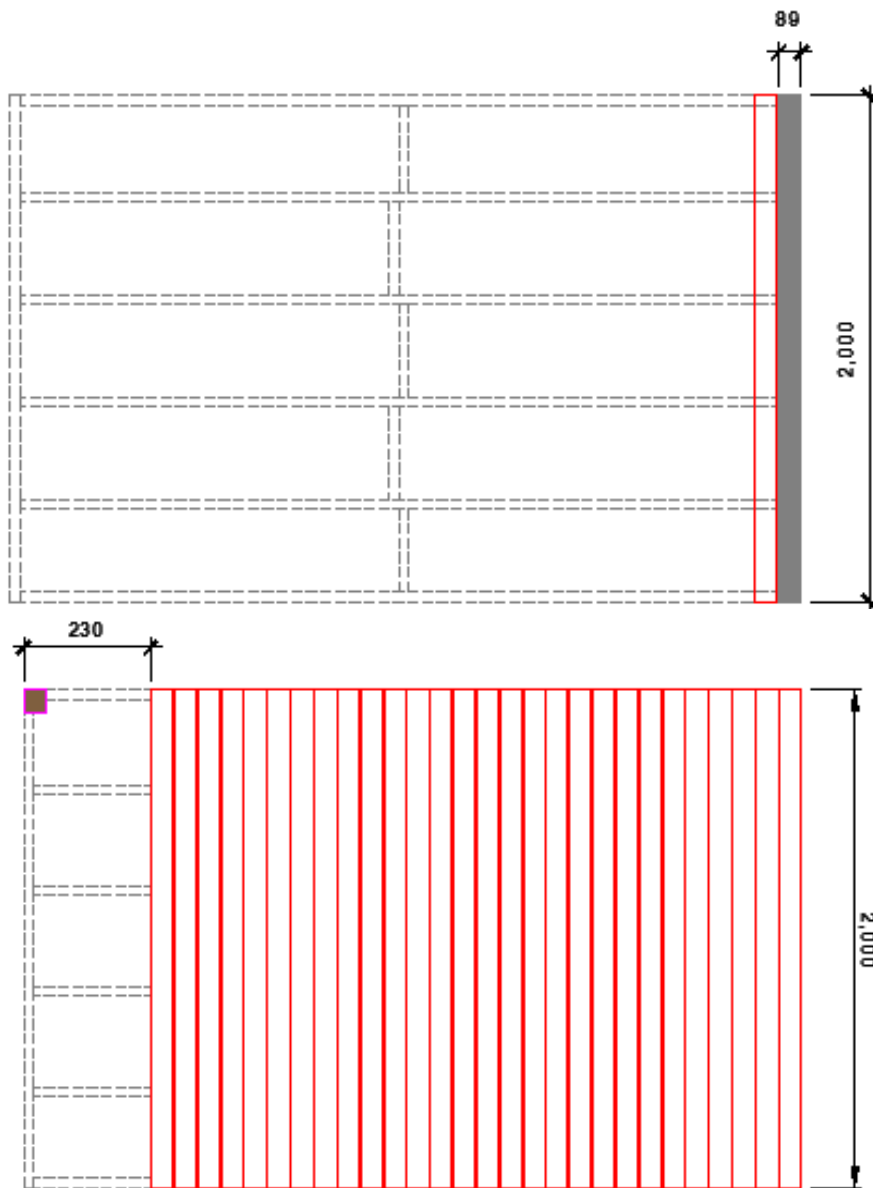
## 바닥장선 블로킹(Blocking) 설치

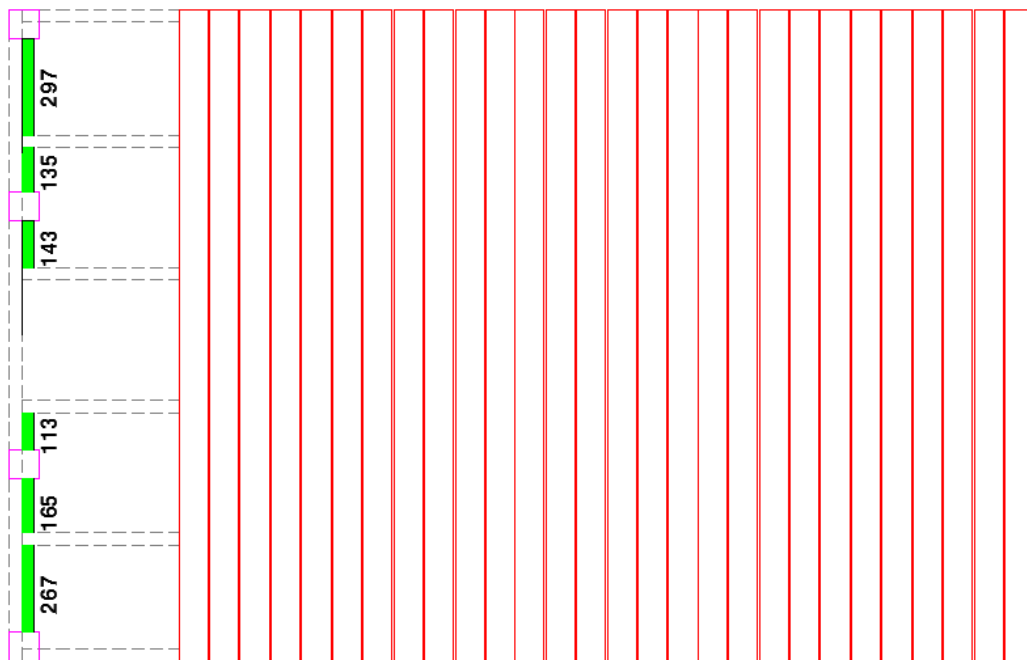
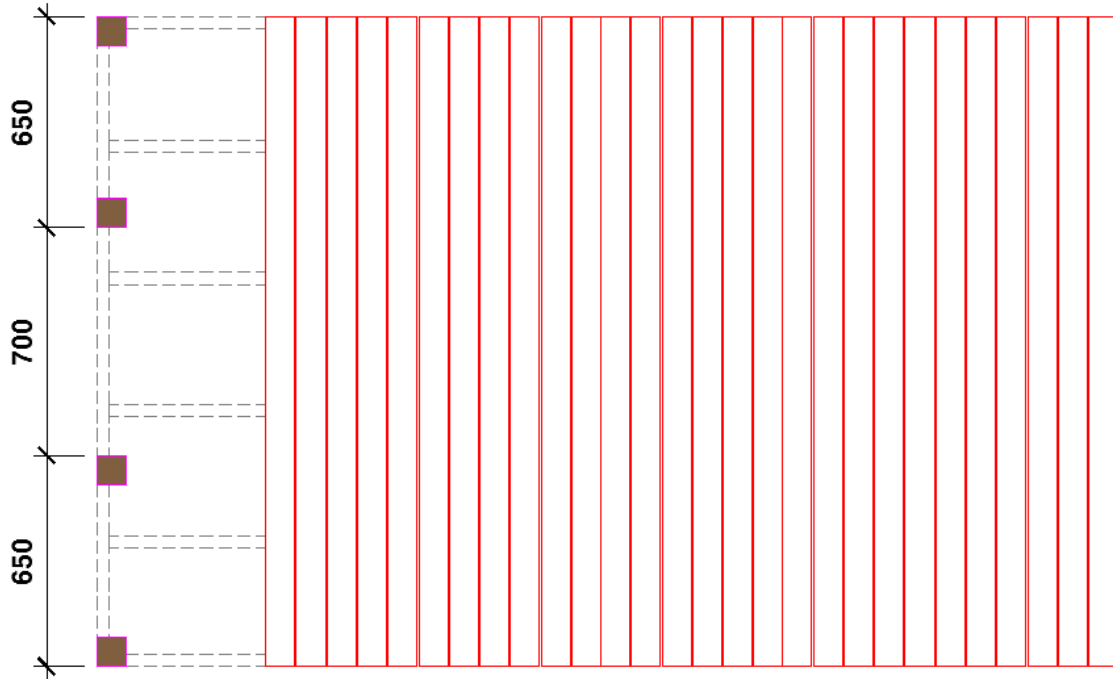
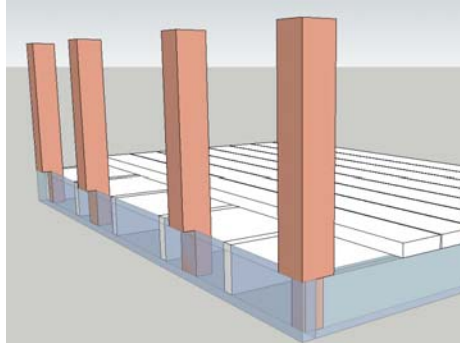


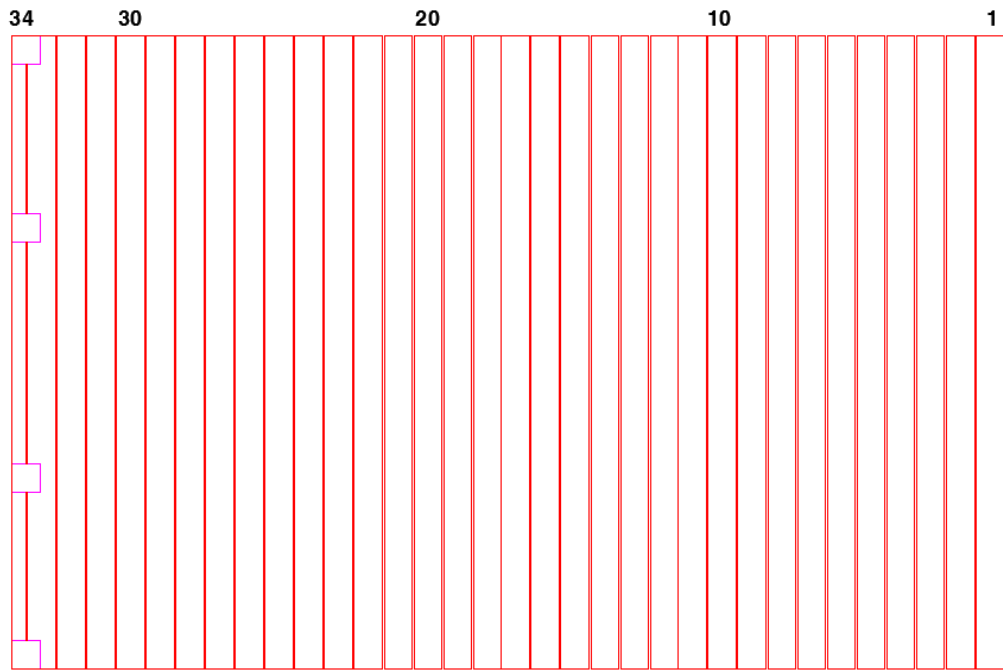
## 바닥 데킹 및 난간기둥 설치



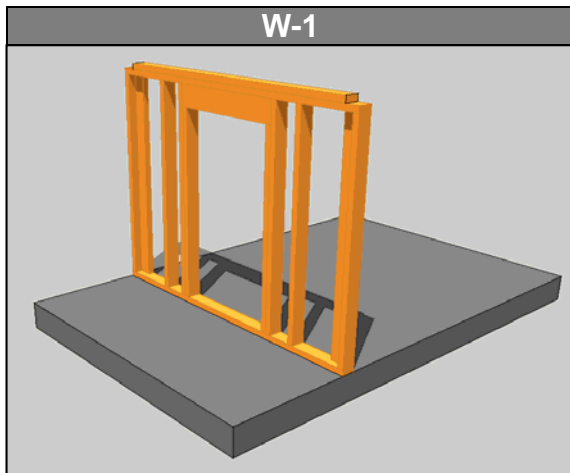
자재	용도	길이(mm)	수량	비고
2x4	Floor Decking	2,000	34	T.W
4x4	난간기둥	700	4	T.W
2x6	Blocking	297	1	TW
2x6	Blocking	135	1	TW
2x6	Blocking	143	1	TW
2x6	Blocking	113	1	TW
2x6	Blocking	165	1	TW
2x6	Blocking	267	1	TW



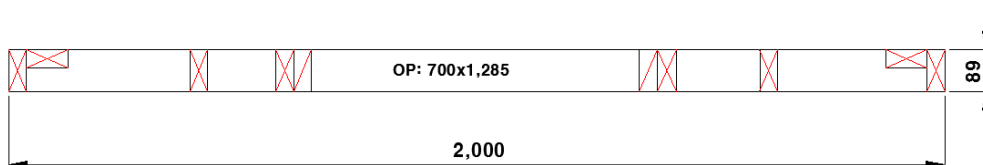
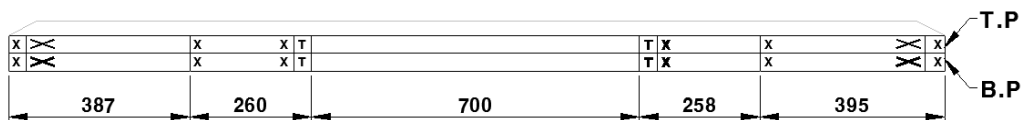
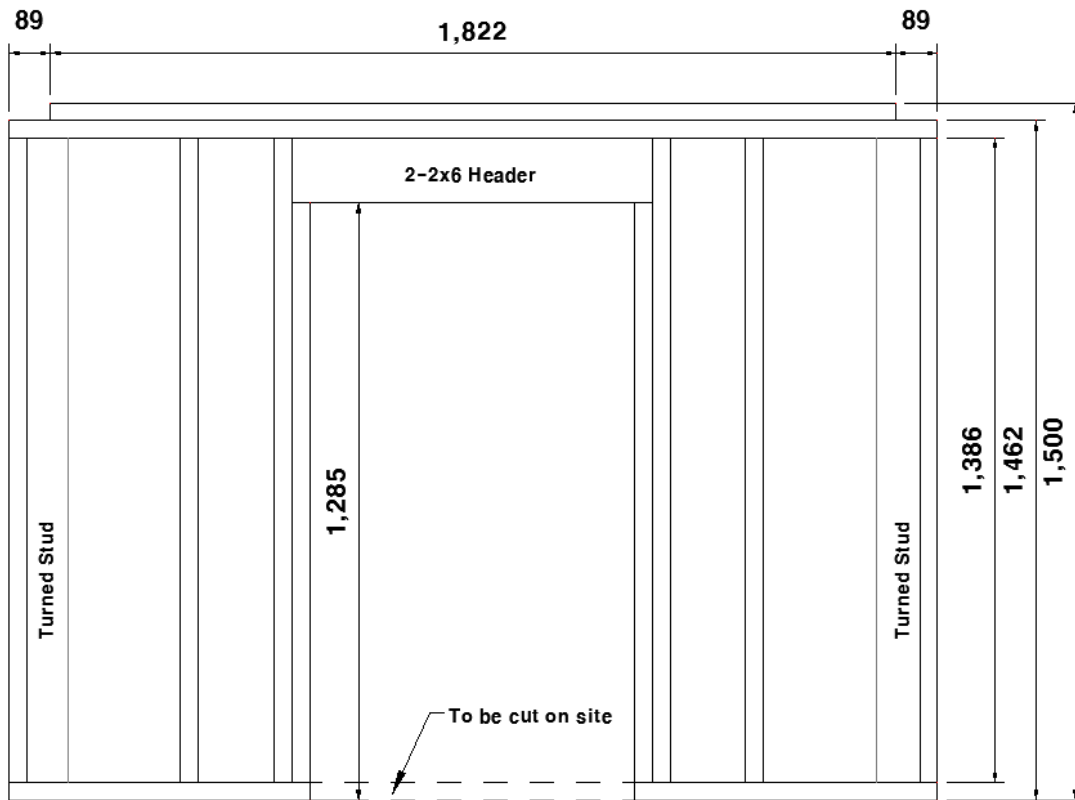




## Wall-1 벽체 조립

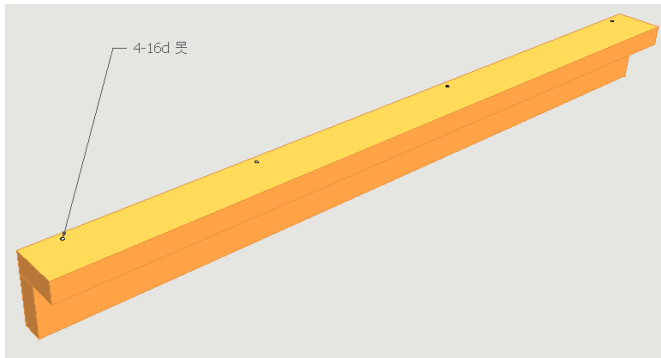
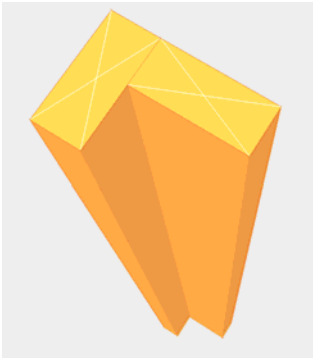


자재	용도	길이(mm)	수량	비고
2x4	Double plate	1,822	1	SPF No.2
2x4	Top plate	2,000	1	SPF No.2
2x4	Bottom plate	2,000	1	방부목
2x4	Stud	1,386	8	SPF No.2
2x4	Trimmer	1,247	2	SPF No.2
2x6	Header	776	2	SPF No.2
OSB	Header filler	130x776	1	11.1mm

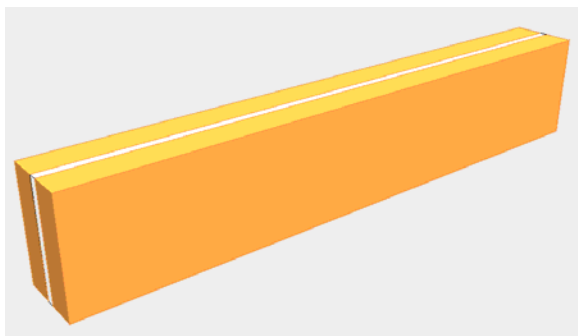
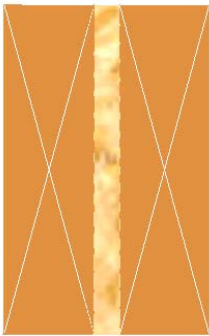


## 개구부 헤더 (인방)

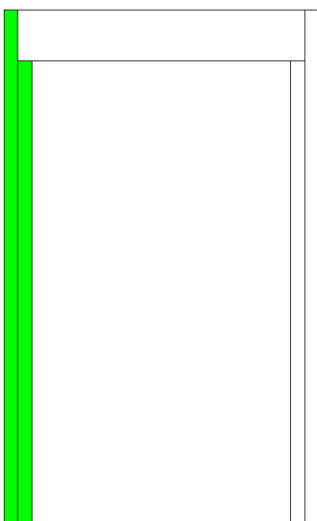
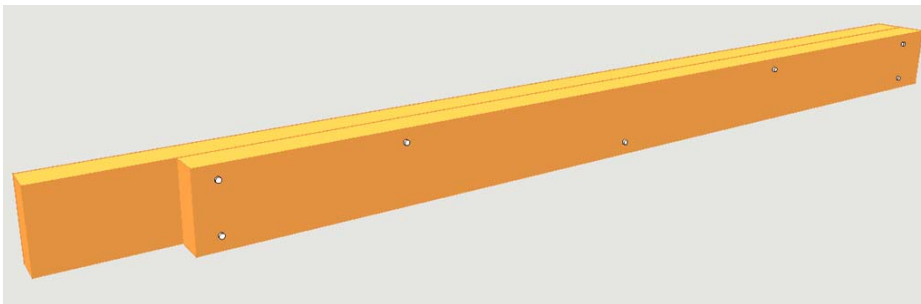
### 'I' 스타드 조립



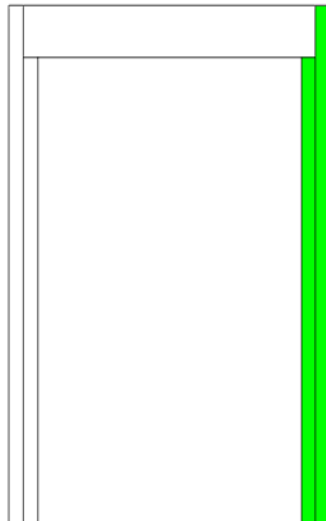
### 헤더 조립



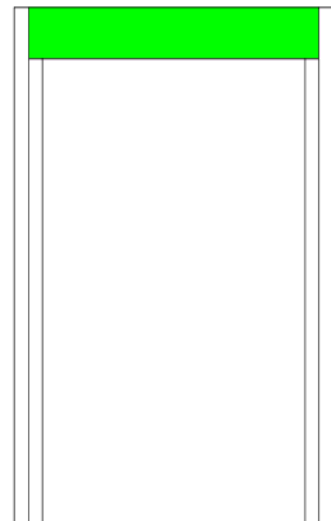
### 킹/트림머 스타드 조립



King+Trimmer 스타드

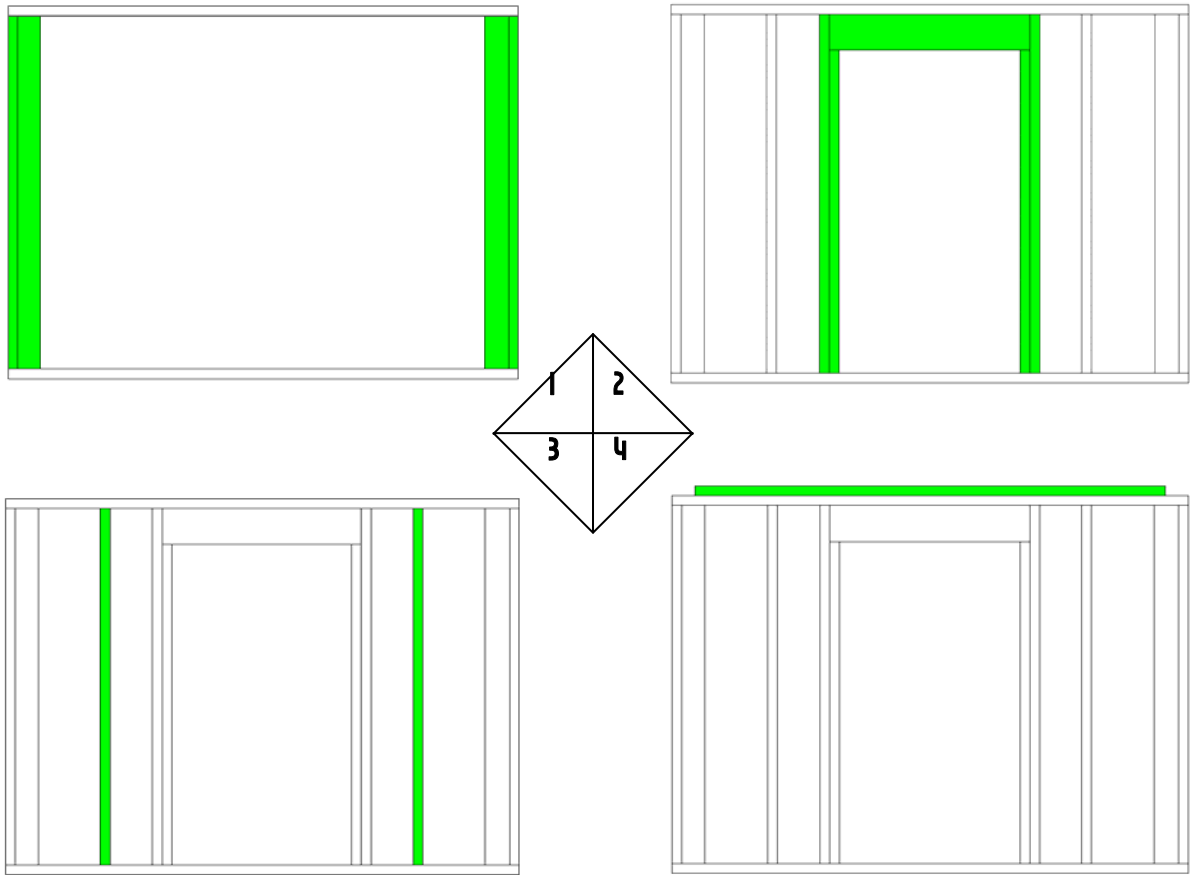


King+Trimmer 스타드



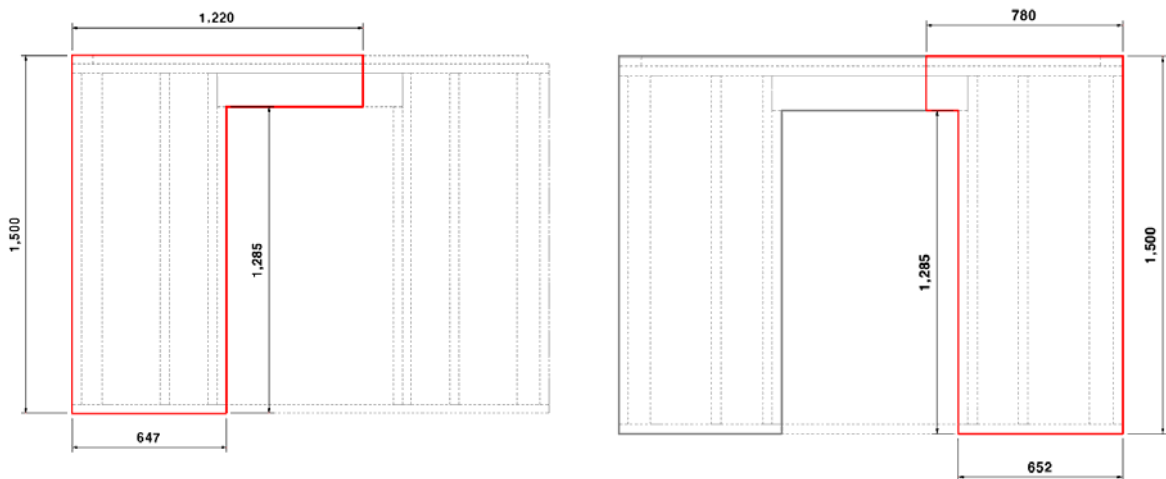
Header

## 벽체 조립

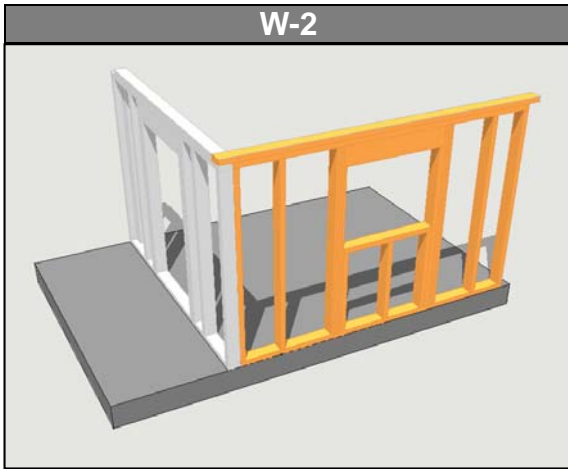


## OSB 설치

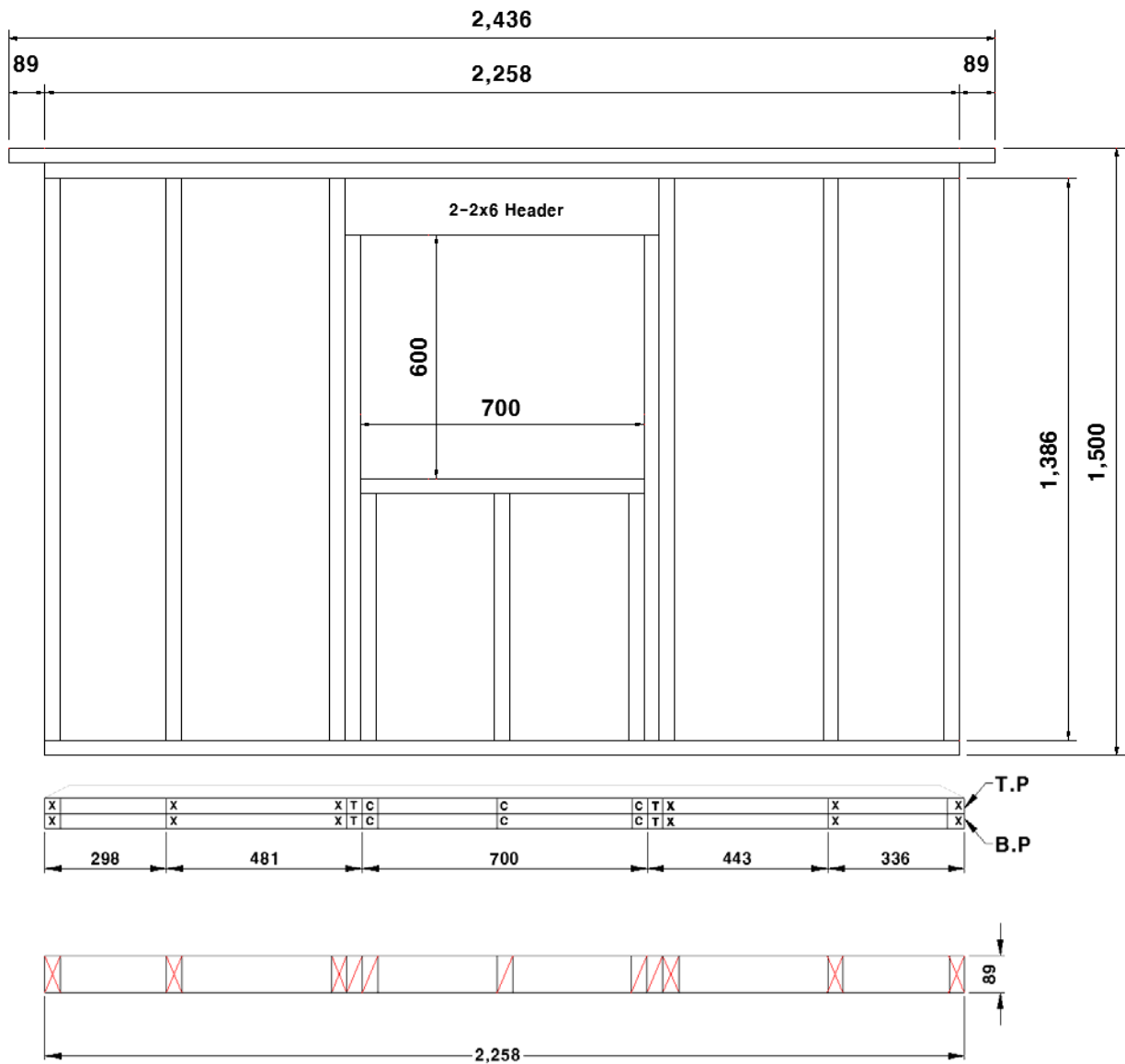
자재	용도	길이(mm)	수량	비고
OSB-11mm	Sheathing	1,200x1,500	1	
OSB-11mm	Sheathing	770x1,500	1	



## Wall-2 벽체 조립



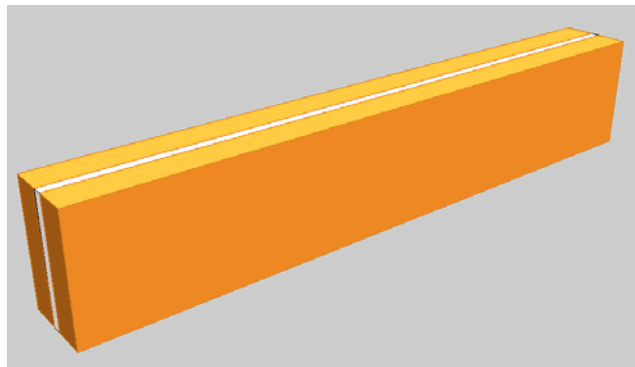
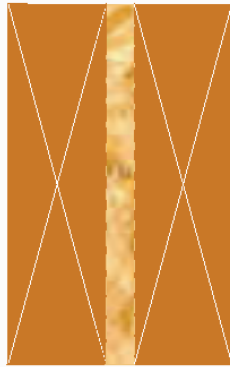
자재	용도	길이(mm)	수량	비고
2x4	Double plate	2,258	1	SPF No.2
2x4	Top plate	2,258	1	SPF No.2
2x4	Bottom plate	2,258	1	방부목
2x4	Stud	1,386	6	SPF No.2
2x4	Trimmer	1,247	2	SPF No.2
2x4	Cripple	608	3	SPF No.2
2x4	Window sill	700	1	SPF No.2
2x6	Header	776	2	SPF No.2
OSB	Header filler	130x776	1	11.1mm



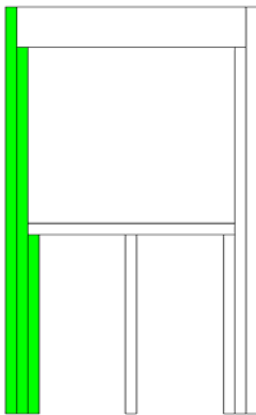
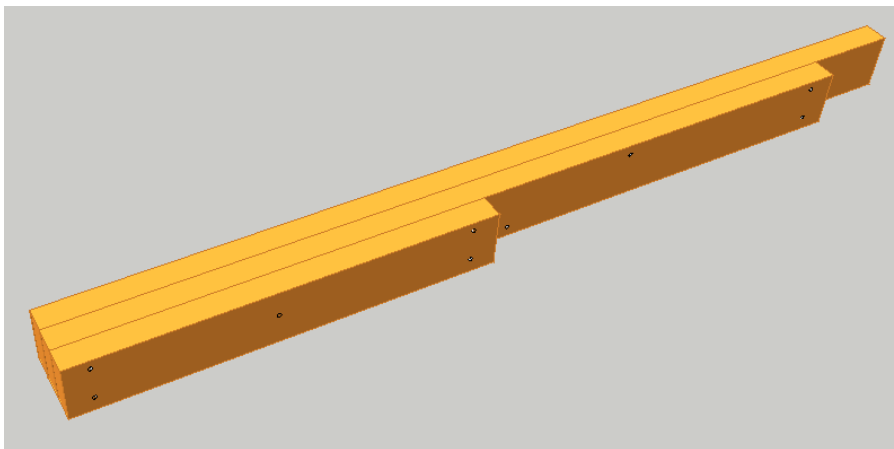


## 개구부 헤더

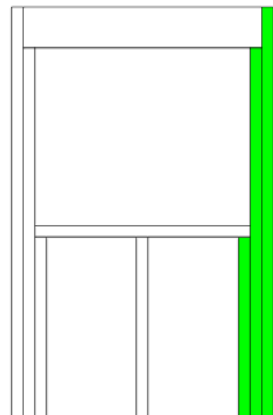
헤더 조립



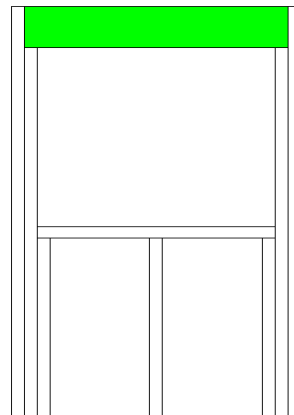
창문골조 조립



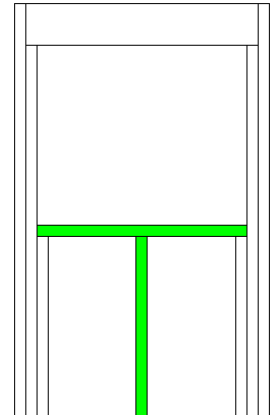
King+Trimmer+Cripple



King+Trimmer+Cripple

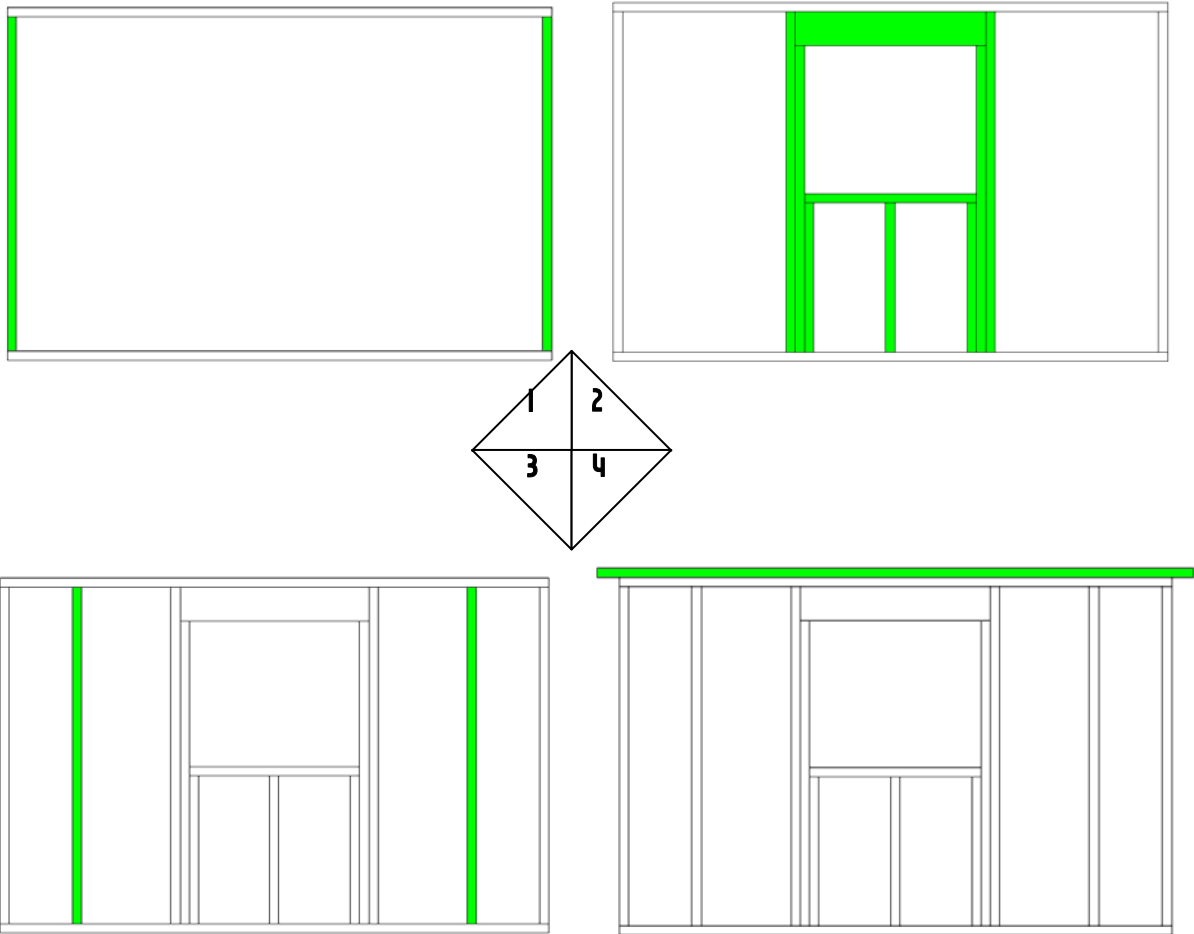


Header



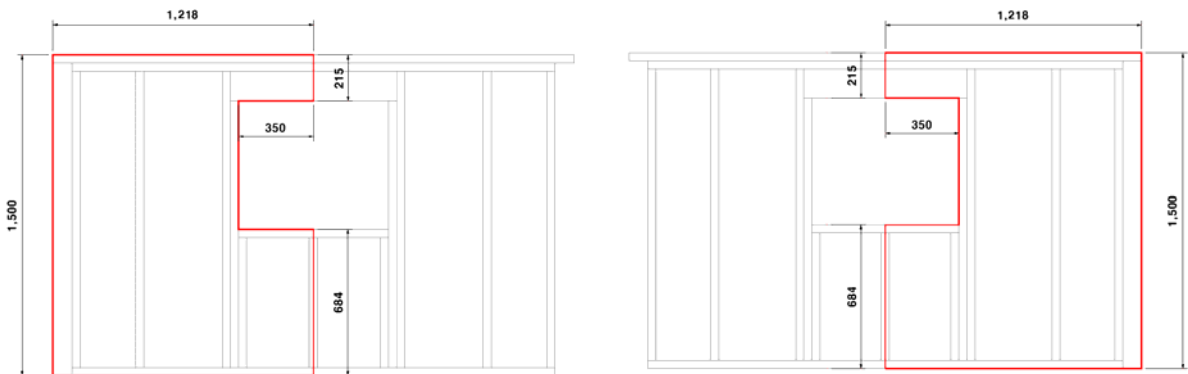
Sill & Cripple

## 벽체 조립

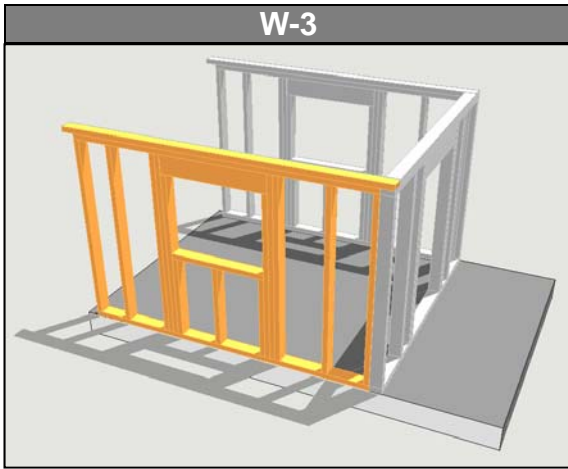


## OSB 설치

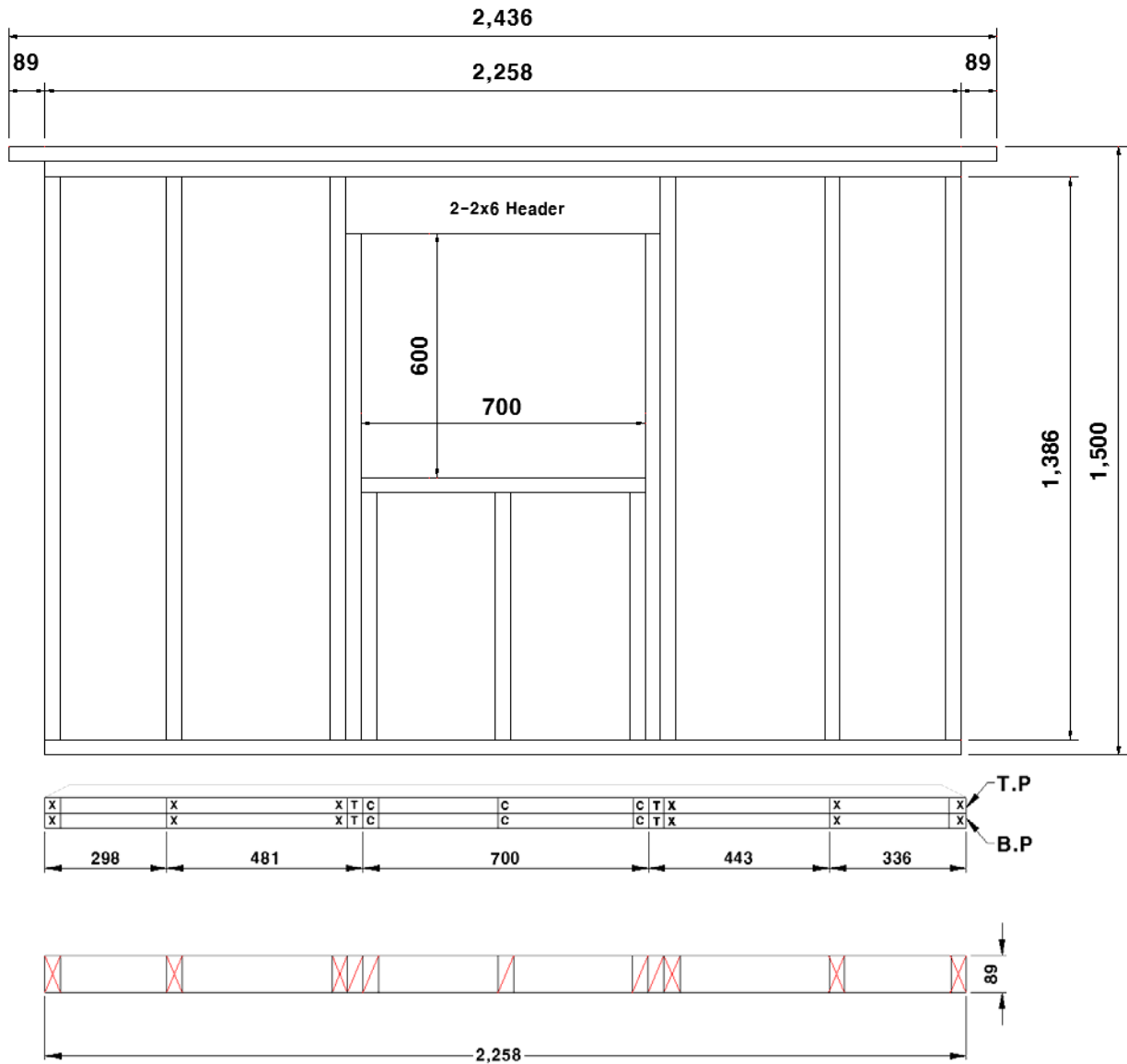
자재	용도	길이(mm)	수량	비고
OSB-11mm	Sheathing	1218x1,500	1	
OSB-11mm	Sheathing	1,218x1,500	1	



## Wall-3 벽체 설치

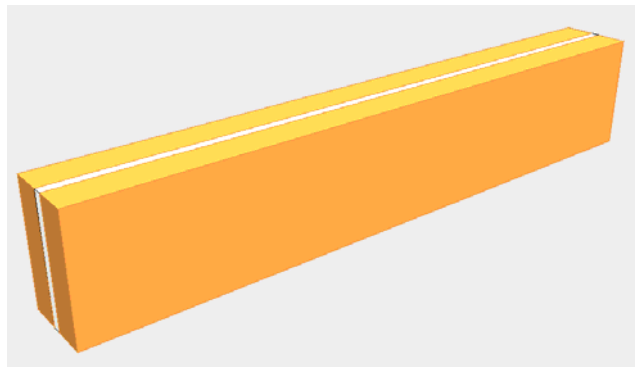
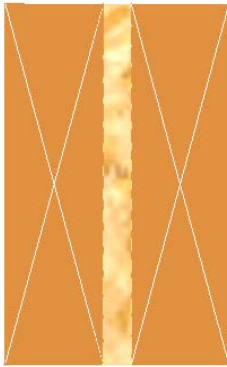


자재	용도	길이(mm)	수량	비고
2x4	Double plate	2,258	1	SPF No.2
2x4	Top plate	2,258	1	SPF No.2
2x4	Bottom plate	2,258	1	방부목
2x4	Stud	1,386	6	SPF No.2
2x4	Trimmer	1,247	2	SPF No.2
2x4	Cripple	608	3	SPF No.2
2x4	Window sill	700	1	SPF No.2
2x6	Header	776	2	SPF No.2
OSB	Header filler	130x776	1	11.1mm

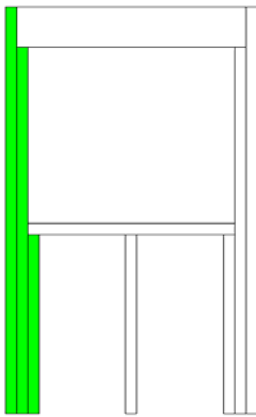
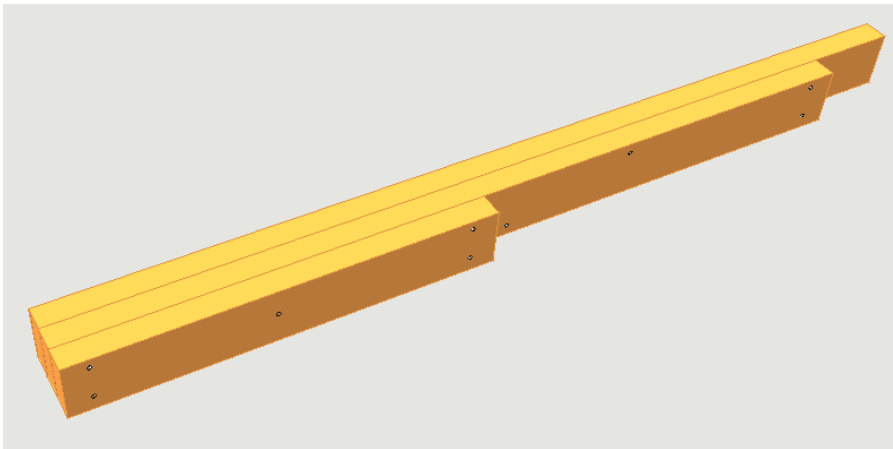


## 개구부 헤더

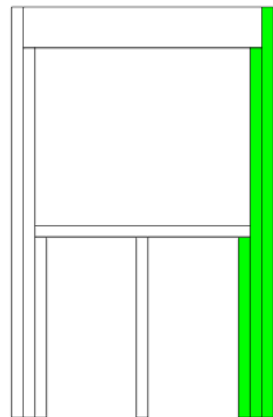
헤더 조립



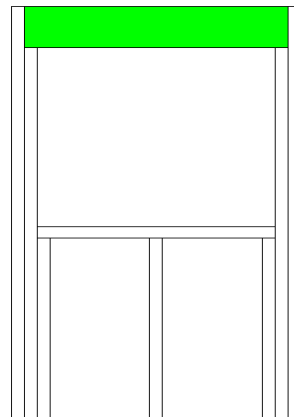
창문골조 조립



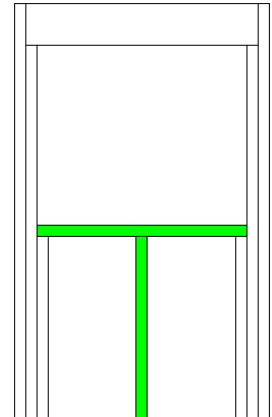
King+Trimmer+Cripple



King+Trimmer+Cripple

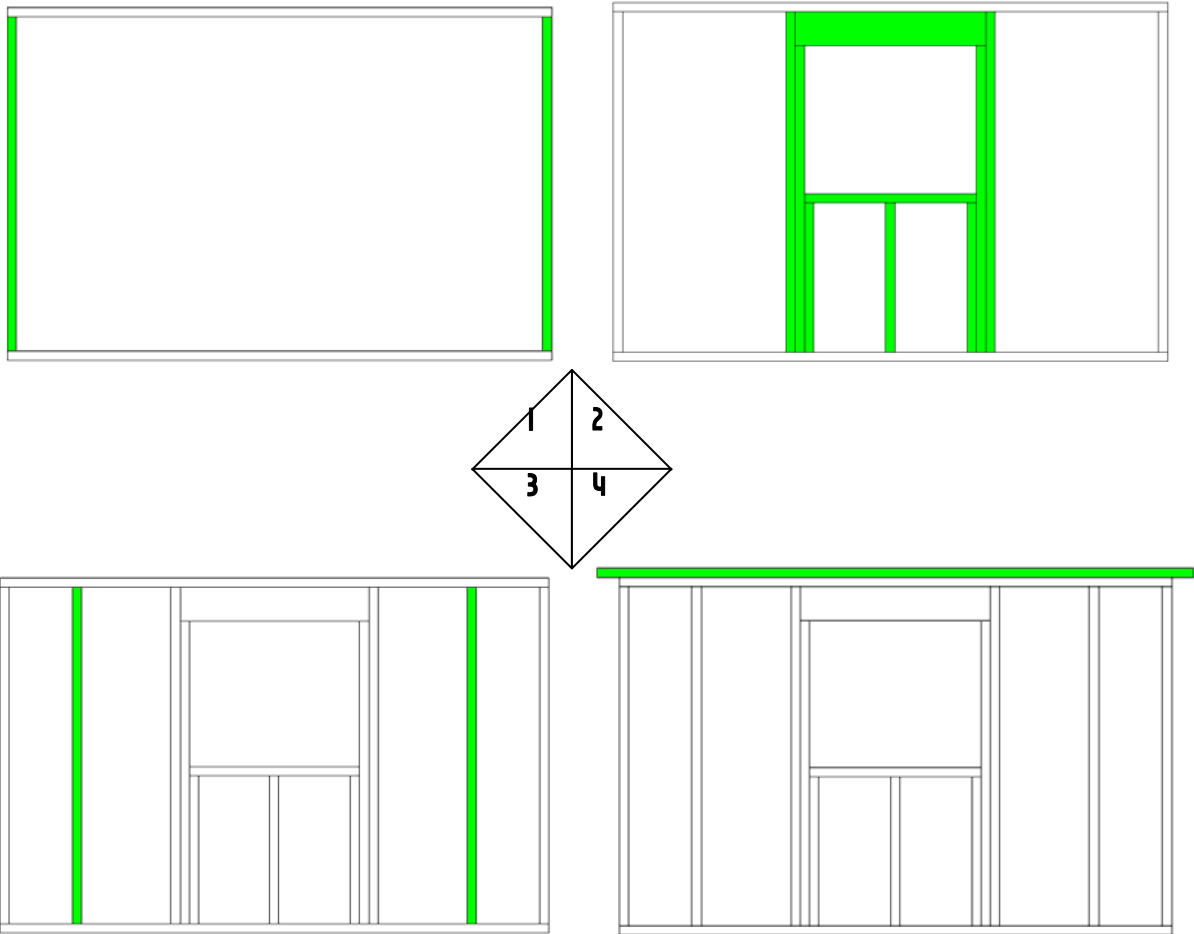


Header



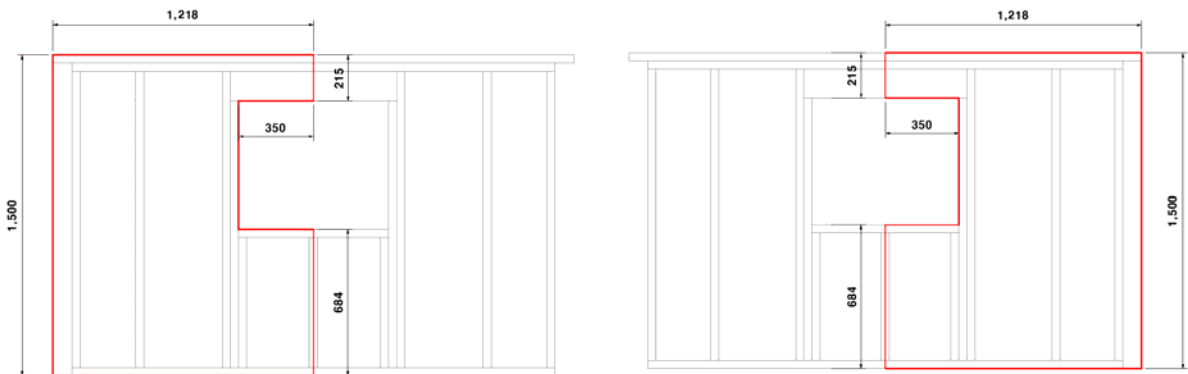
Sill & Cripple

## 벽체 조립

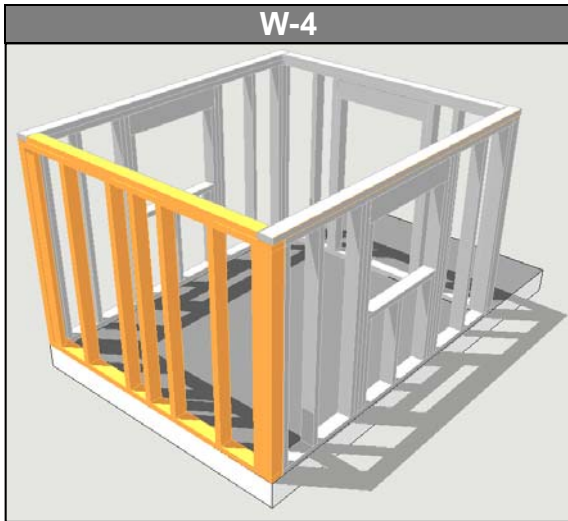


## OSB 설치

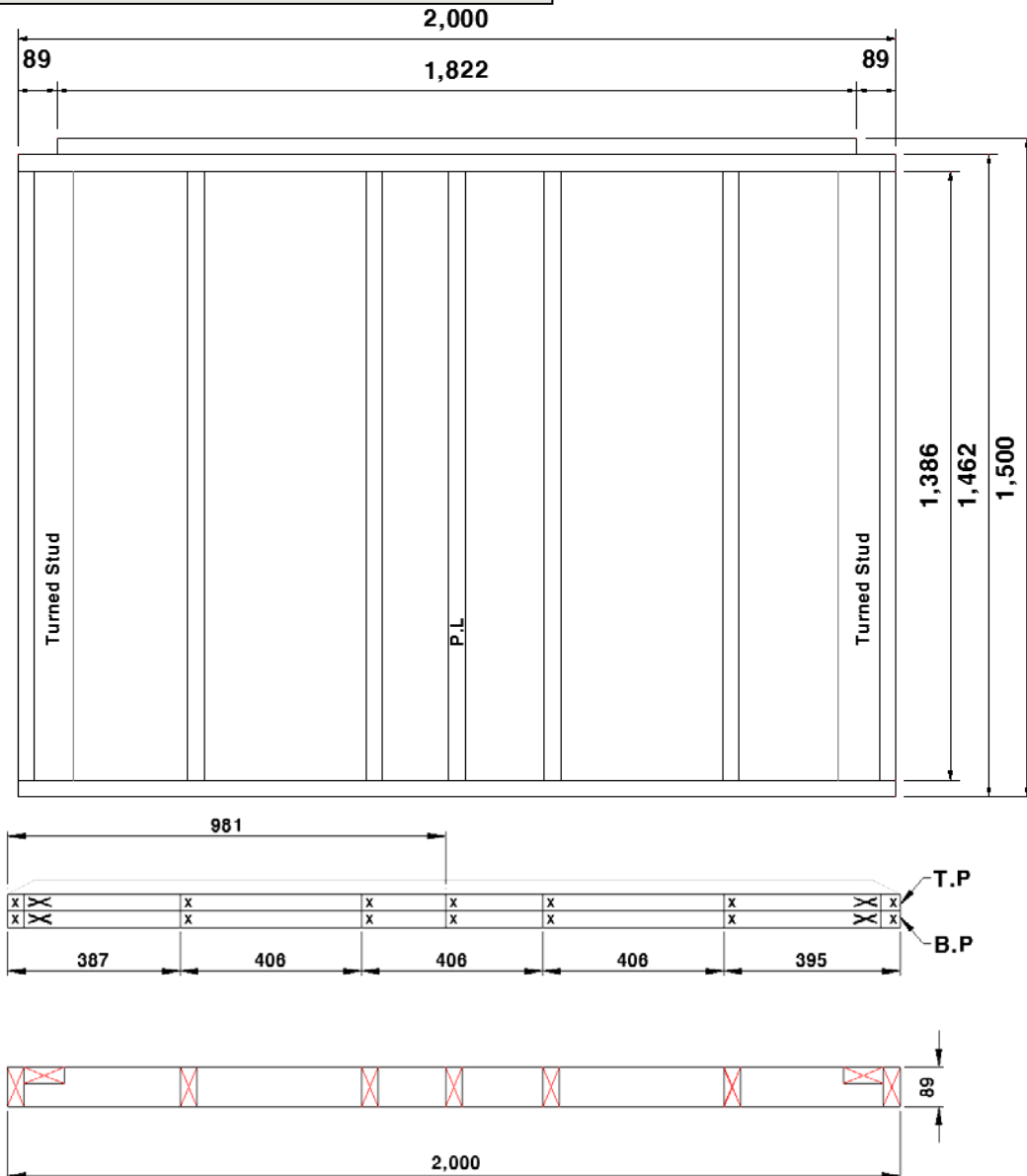
자재	용도	길이(mm)	수량	비고
OSB-11mm	Sheathing	1218x1,500	1	
OSB-11mm	Sheathing	1,218x1,500	1	



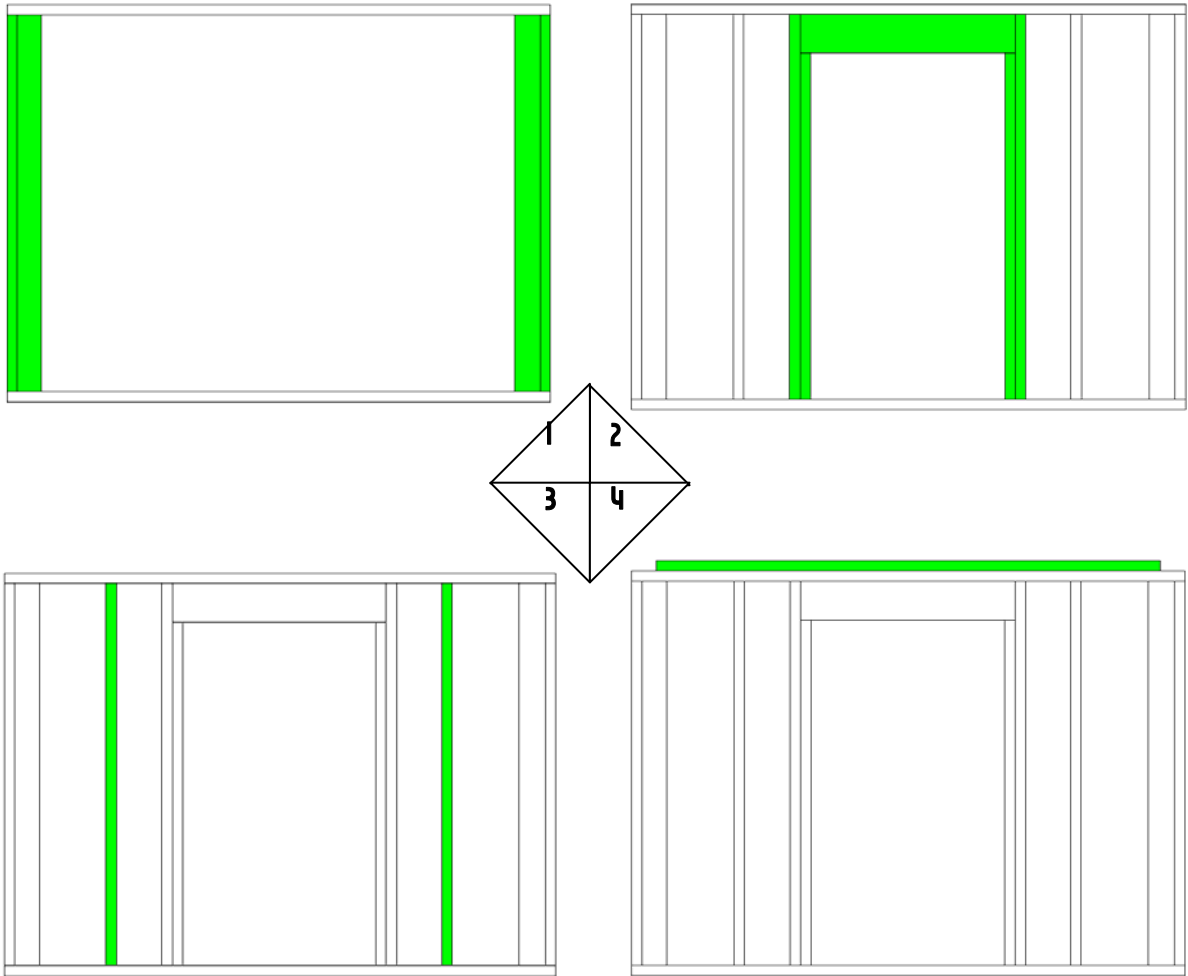
## Wall-4 벽체 설치



자재	용도	길이(mm)	수량	비고
2x4	Double plate	1,822	1	SPF No.2
2x4	Top plate	2,000	1	SPF No.2
2x4	Bottom plate	2,000	1	방부목
2x4	Stud	1,386	9	SPF No.2

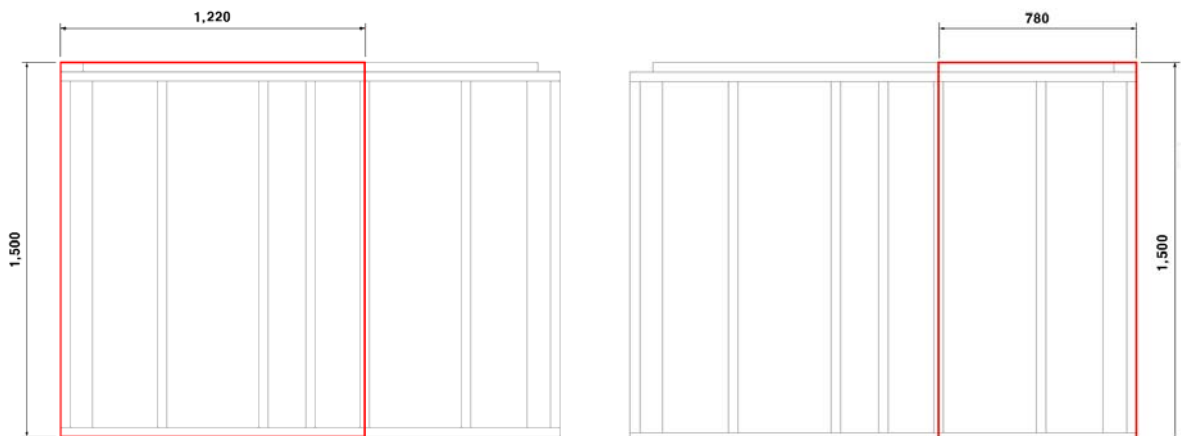


## 벽체 조립



## OSB 설치

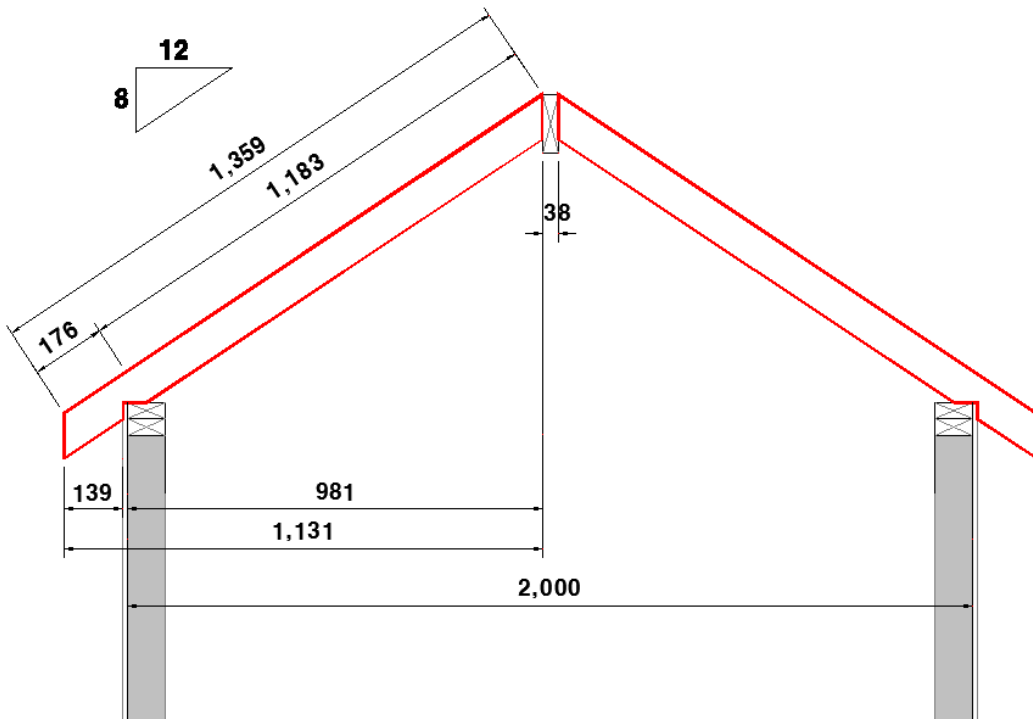
자재	용도	길이(mm)	수량	비고
OSB-11mm	Sheathing	1,200x1,500	1	
OSB-11mm	Sheathing	770x1,500	1	



## 지붕골조

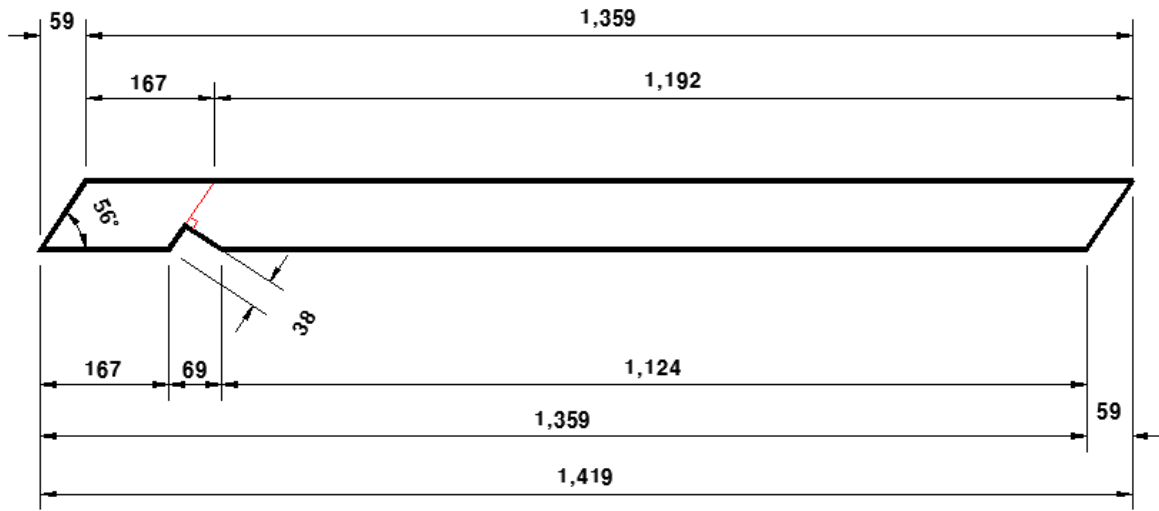


자재	용도	길이(mm)	수량	비고
2x6	Ridge Board	2,860	1	SPF No.2
2x4	Rafter	1,419	10	SPF No.2
2x4	Lookout Rafter	1,419	4	SPF No.2
2x6	Barge Board	1,506	4	방부목
2x6	Fascia Board	2,860	2	방부목
2x4	Gable Post	590	2	SPF No.2
2x4	Gable Stud	357	4	SPF No.2
2x4	Gable Ladder	675	4	SPF No.2
2x4	Gable Ladder	523	4	SPF No.2

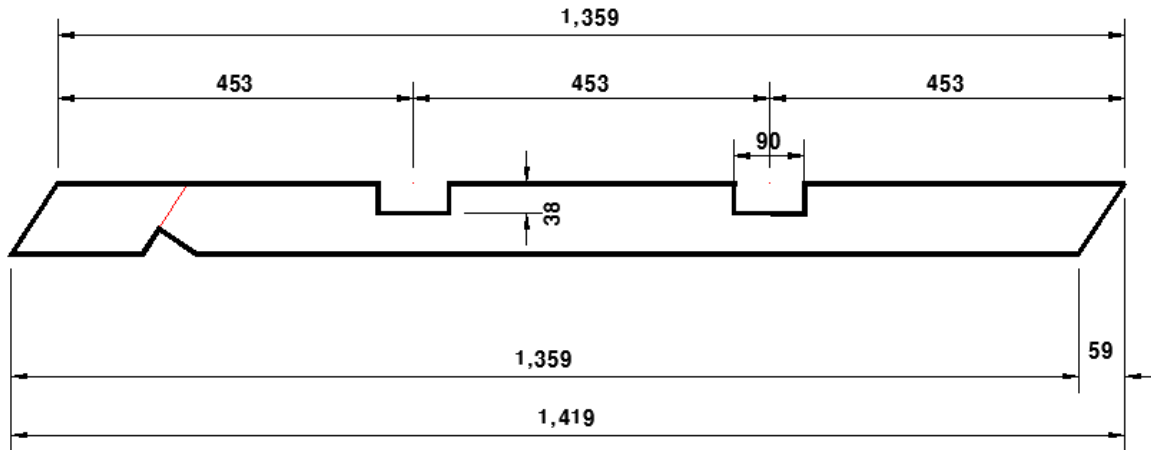


지붕 서까래 단면 상세

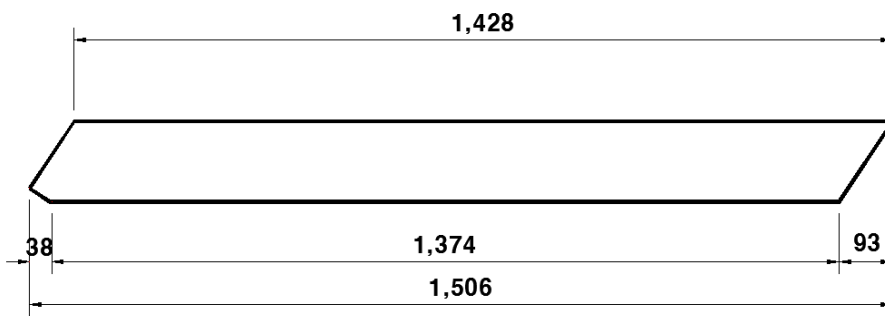




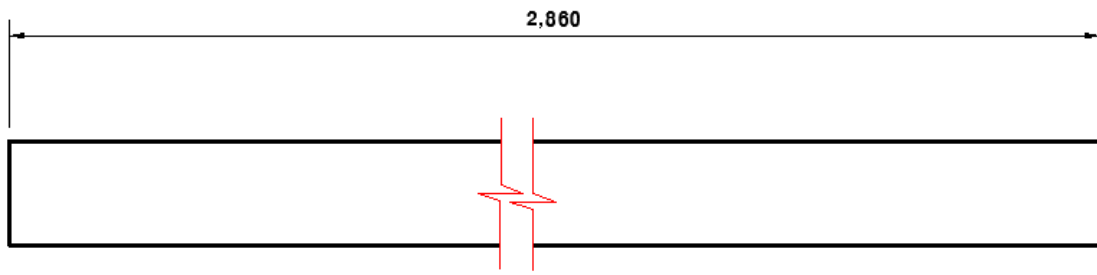
Common Rafter (2x4)



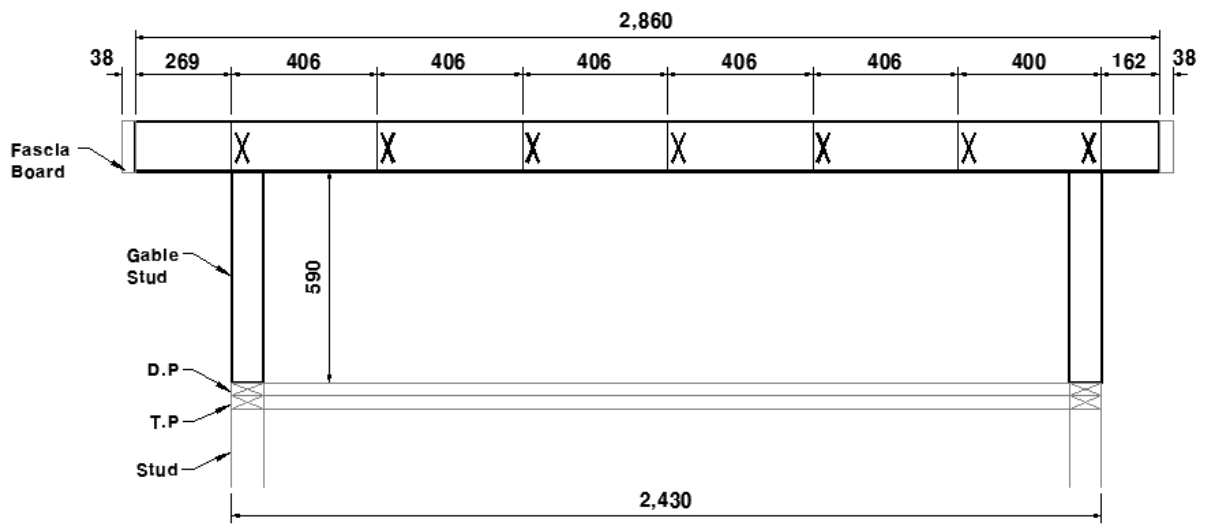
Lookout Rafter (2x4)



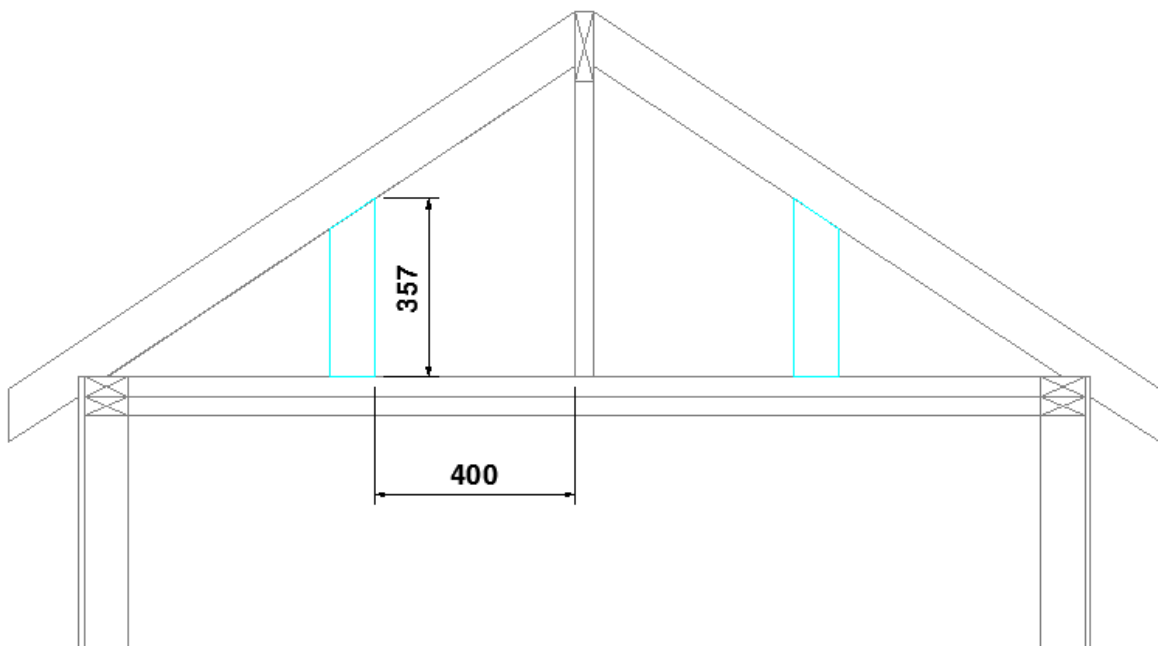
Barge Board (2x6-Treated Wood)



Fascia Board (2x6-Treated Wood)



Ridge Board (2x6) Layout



Gable Studs

## 지붕 서까래 설치



Ridge board & Gable stud 설치



Lookout rafter 설치



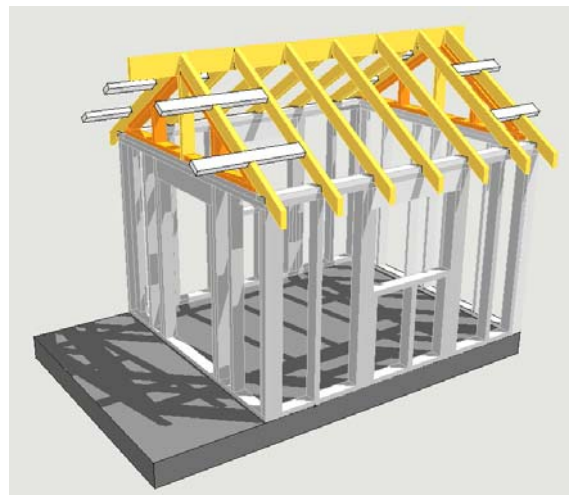
Gable wall stud & blocking 설치



Common rafter 설치



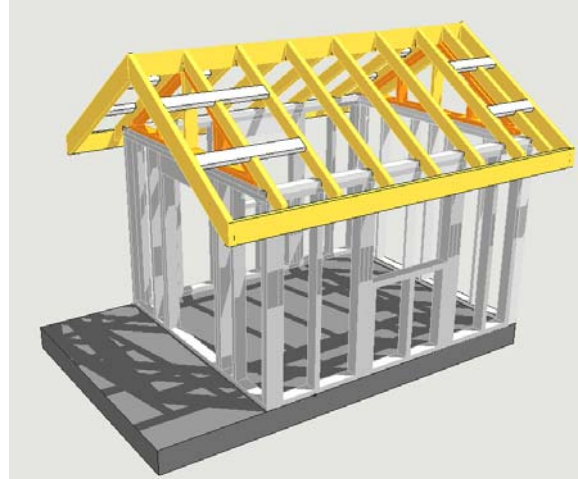
Common rafter 설치



Lookout 설치



Barge board 설치



Fascia board 설치

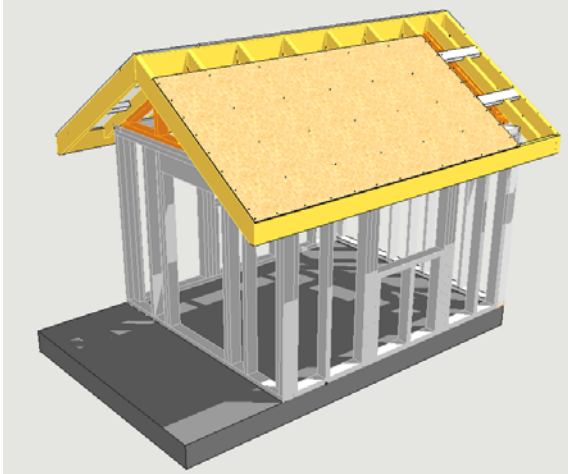
Gable wall stud

2x4 - 230mm (수평으로 설치: 천장 보드 설치 시 유리함)

### 지붕덮개(Roof Sheathing) 설치



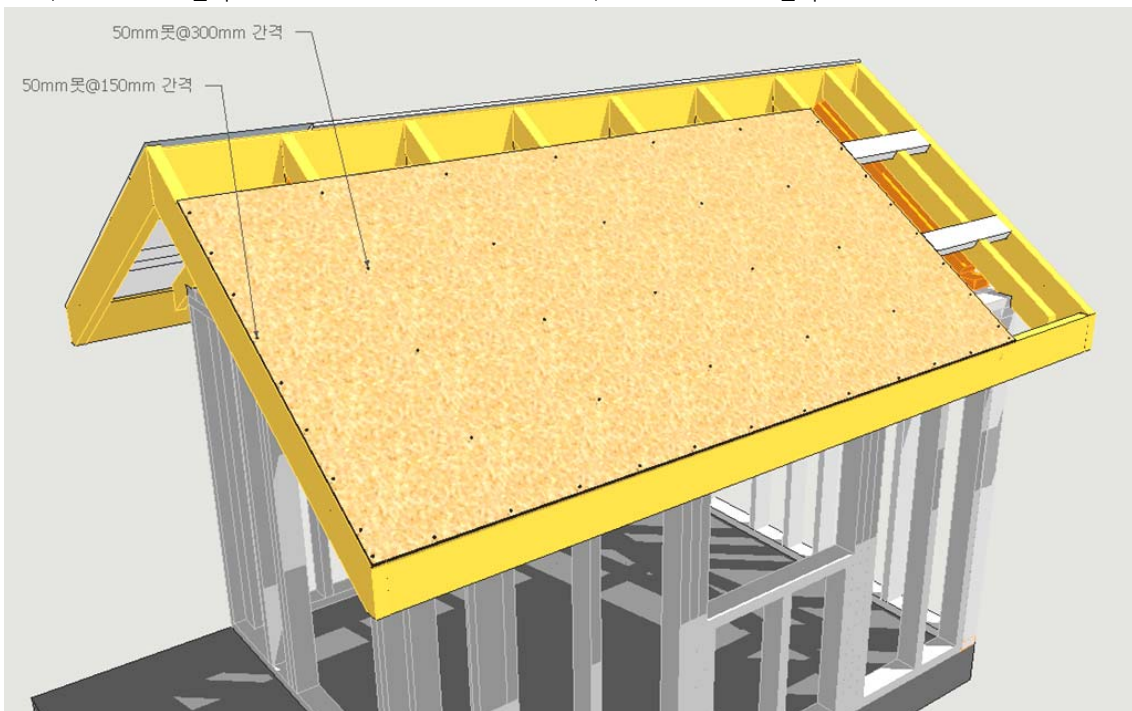
자재	용도	길이(mm)	수량	비고
OSB	지붕덮개	1,220x2,356	2	11mm
OSB	지붕덮개	1,220x580	2	11mm
OSB	지붕덮개	2,204x180	2	11mm
OSB	지붕덮개	732x180	2	11mm



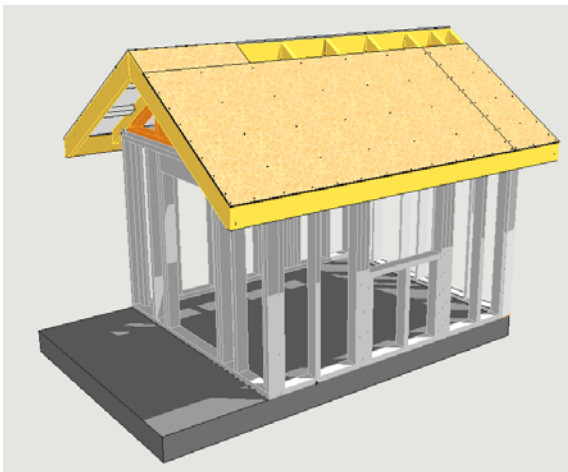
1,220x2,440mm OSB 설치



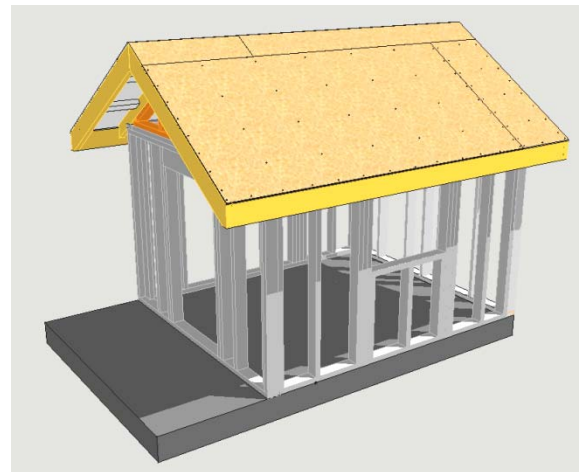
1,220x520mm OSB 설치



못박기 규정에 따라 OSB 고정



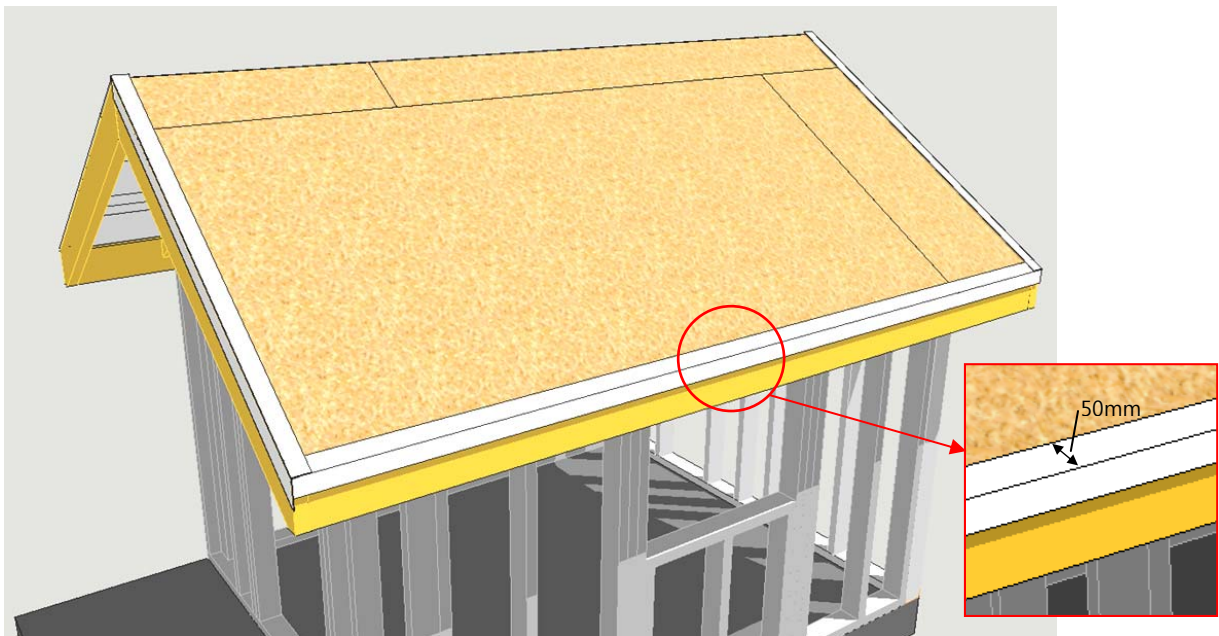
810x220mm OSB 설치



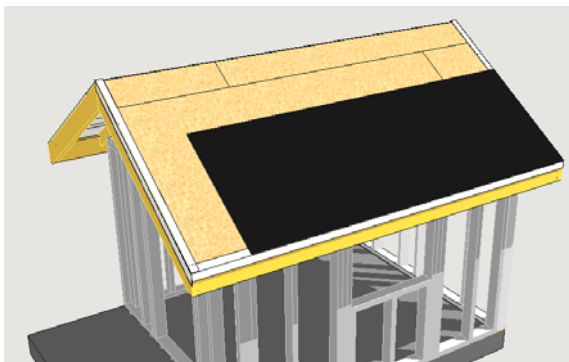
2,224x220mm OSB 설치

## 지붕마감

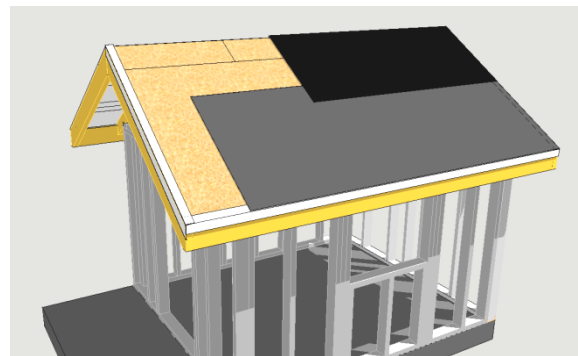
자재	용도	길이(mm)	수량	비고
<b>Metal Flashing</b>	Roof flashing	2,950	2	
<b>Metal Flashing</b>	Roof flashing	1,850	2	
<b>Metal Flashing</b>	Roof flashing	1,050	2	
<b>Roofing felt</b>	방수지	900x2,950	4	
<b>Asphalt shingle</b>	지붕마감재		10m <sup>2</sup>	



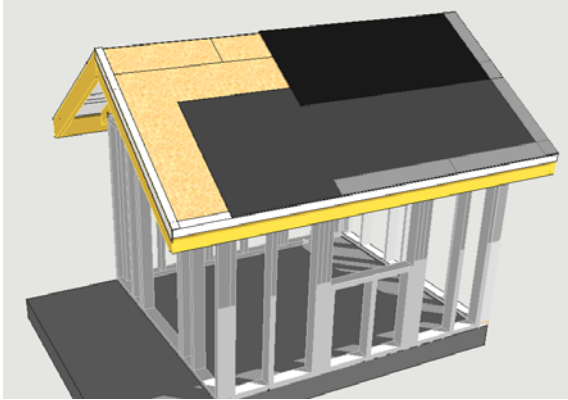
Metal flashing 설치



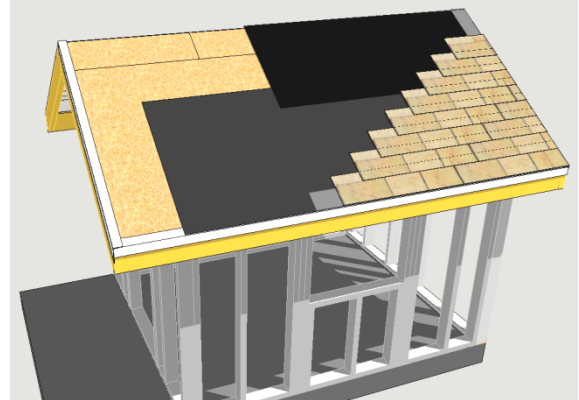
Roofing felt 설치



Roofing felt 설치(최소 50mm 겹침)

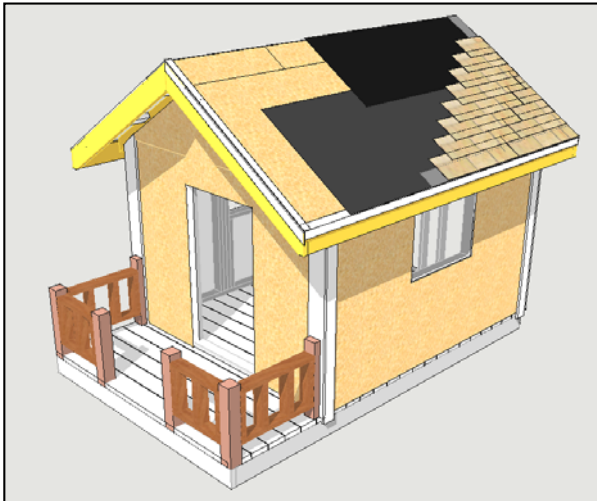


처마띠 싱글(Starter strip) 설치



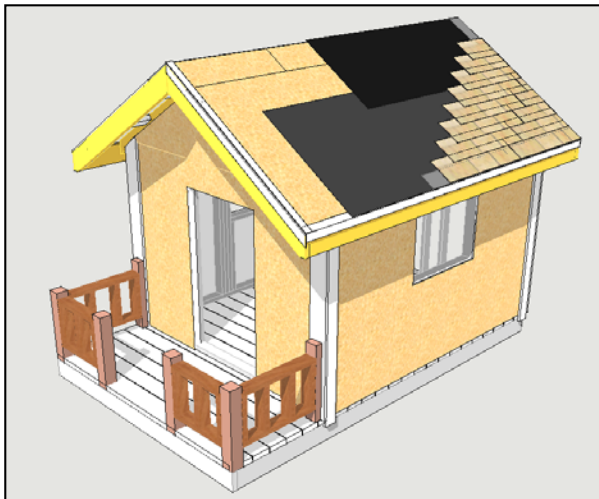
아스팔트싱글 설치

### Wall Corner Post 설치

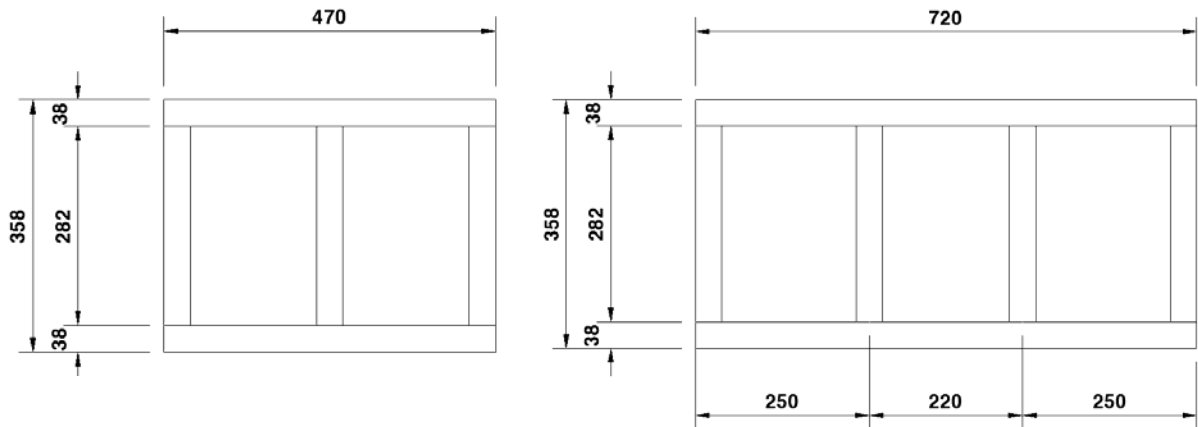


자재	용도	길이(mm)	수량	비고
1x6	Corner Post	1,500	4	TW
1x6	Corner Post	1,630	4	TW

### 데크 핸드레일 설치



자재	용도	길이(mm)	수량	비고
2x4	T.B 레일	470	4	TW
2x4	핸드레일	320	14	TW
2x4	R.B 레일	620	4	TW
2x4	Corner post	560	2	TW



- 천장보드
  - 1x6 - 2,250mm (12개)
  
- 개구부 트림재 (2x6 방부목)
  - 문트림: 측면 50 11/16" (2개), 상부 25 1/2" (1개)
  - 창트림: 측면 23 9/16" (2개), 상부 25 1/2" (2개)

그룹별 필요 공구 리스트

- a. 5미터 전선, Circular Saw (그룹별)
- b. 커터 칼 (그룹별)
- c. Framing Square (그룹별)
- d. 5미터 줄자 (개인별)
- e. 망치 (개인별)

현장에 필요한 공구

- a. 톱 Hand saw
- b. 전지가위 (Gutter 절단용)
- c. 레벨
- d. 못 뽑기 Nail puller