

## #045 APA

- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **46**
- SRM **3.9**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **18 liter(s)**
- Trub loss **5 %**
- Size with trub loss **20.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **11 %/h**
- Boil size **24.6 liter(s)**

### Mash information

- Mash efficiency **76 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **17 liter(s)**
- Total mash volume **21.3 liter(s)**

### Steps

- Temp **64 C**, Time **50 min**
- Temp **72 C**, Time **10 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **17 liter(s)** of strike water to **69.5C**
- Add grains
- Keep mash **50 min** at **64C**
- Keep mash **10 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **11.9 liter(s)** of **76C** water or to achieve **24.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	3.5 kg (82.4%)	79 %	6
Grain	Płatki ryżowe	0.5 kg (11.8%)	85 %	0.7
Grain	Weyermann - Carapils	0.25 kg (5.9%)	78 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	15 g	60 min	13.5 %
Aroma (end of boil)	Idaho 7	10 g	13 min	12.7 %
Aroma (end of boil)	Vic Secret	10 g	13 min	16.3 %
Whirlpool	Vic Secret	10 g	10 min	16.3 %
Whirlpool	Strata	10 g	10 min	13.6 %
Dry Hop	Idaho 7	40 g	3 day(s)	12.7 %
Dry Hop	Strata	40 g	3 day(s)	13.6 %
Dry Hop	Amarillo	50 g	3 day(s)	9.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
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Danstar - Nottingham	Ale	Dry	22 g	Danstar
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### Extras

Type	Name	Amount	Use for	Time
Fining	whirfloc t	1.25 g	Boil	10 min