

## futer Session APA single hop

- Gravity **8.3 BLG**
- ABV **3.2 %**
- IBU **31**
- SRM **4.3**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **24 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **28.6 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **11.9 liter(s)**
- Total mash volume **15.3 liter(s)**

### Steps

- Temp **72 C**, Time **60 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **11.9 liter(s)** of strike water to **79.4C**
- Add grains
- Keep mash **60 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **20.1 liter(s)** of **76C** water or to achieve **28.6 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	2.8 kg (82.4%)	80 %	5
Grain	Płatki owsiane	0.3 kg (8.8%)	85 %	3
Grain	Strzegom Pszeniczny	0.15 kg (4.4%)	81 %	6
Grain	Słód Caramunich Typ II Weyermann	0.15 kg (4.4%)	73 %	120

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Amarillo	25 g	50 min	9.5 %
Aroma (end of boil)	Amarillo	5 g	15 min	9.5 %
Aroma (end of boil)	Amarillo	5 g	10 min	9.5 %
Aroma (end of boil)	Amarillo	5 g	5 min	9.5 %
Dry Hop	Amarillo	10 g	8 day(s)	9.5 %
Dry Hop	Amarillo	10 g	6 day(s)	9.5 %
Dry Hop	Amarillo	10 g	4 day(s)	9.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Dry	11.5 g	Safale