

APA

- Gravity **9.3 BLG**
- ABV **3.6 %**
- IBU **45**
- SRM **5**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

Mash information

- Mash efficiency **60 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.6 liter(s)**
- Total mash volume **20.8 liter(s)**

Steps

- Temp **66 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **15.6 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **45 min** at **66C**
- Keep mash **15 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **18.6 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Castle Pale Ale	5 kg (96.2%)	80 %	8
Grain	Castlemalting - Cara Clair	0.2 kg (3.8%)	78 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Amarillo	20 g	60 min	17.4 %
Aroma (end of boil)	Centennial	15 g	5 min	10.5 %
Aroma (end of boil)	Citra	15 g	5 min	12 %

Yeasts

Name	Type	Form	Amount	Laboratory
Danstar BRY-97	Ale	Dry	11 g	danstar