

WWA e. 20

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **29**
- SRM **4.7**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **13.2 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **6.3 liter(s)**
- Total mash volume **8.4 liter(s)**

Steps

- Temp **62 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **6.3 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **40 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **9 liter(s)** of **76C** water or to achieve **13.2 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Castle Pale Ale	2 kg (95.2%)	80 %	8
Grain	Pszeniczny	0.1 kg (4.8%)	85 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Citra	5 g	60 min	15.2 %
Boil	Citra	5 g	10 min	15.2 %
Aroma (end of boil)	Citra	25 g	1 min	15.2 %
Aroma (end of boil)	HBC 1019	25 g	1 min	8.8 %