

nie wiem co to

- Gravity **10 BLG**
- ABV **4 %**
- IBU **46**
- SRM **7.9**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12 liter(s)**
- Total mash volume **16 liter(s)**

Steps

- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **12 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **30 min** at **62C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **17.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|--------------|-------|-----|
| Grain | Castle Pale Ale | 3.8 kg (95%) | 80 % | 8 |
| Grain | Caramel/Crystal Malt - 120L | 0.2 kg (5%) | 72 % | 236 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------|--------|--------|------------|
| Boil | Apollo | 15 g | 60 min | 17 % |
| Aroma (end of boil) | Cascade PL | 20 g | 10 min | 5.2 % |
| Aroma (end of boil) | Citra | 20 g | 5 min | 12 % |
| Aroma (end of boil) | Summit | 25 g | 2 min | 17 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-----------------|------|------|--------|------------|
| Fermentis US-05 | Ale | Dry | 10 g | --- |