

## #? APA SH?

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **44**
- SRM **7.7**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **14 liter(s)**
- Trub loss **0 %**
- Size with trub loss **14 liter(s)**
- Boil time **60 min**
- Evaporation rate **12 %/h**
- Boil size **15.7 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.55 liter(s) / kg**
- Mash size **11.9 liter(s)**
- Total mash volume **15.2 liter(s)**

### Steps

- Temp **67 C**, Time **60 min**
- Temp **75 C**, Time **10 min**

### Mash step by step

- Heat up **11.9 liter(s)** of strike water to **73.6C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **10 min** at **75C**
- Sparge using **7.2 liter(s)** of **76C** water or to achieve **15.7 liter(s)** of wort

### Fermentables

| Type  | Name                       | Amount         | Yield | EBC |
|-------|----------------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt       | 3 kg (89.6%)   | 78 %  | 6.5 |
| Grain | Abbey Castle/melanoidynowy | 0.1 kg (3%)    | 80 %  | 45  |
| Grain | Caramel/Crystal Malt 160   | 0.1 kg (3%)    | 72 %  | 160 |
| Grain | Carahell                   | 0.15 kg (4.5%) | 77 %  | 26  |

### Hops

| Use for             | Name                   | Amount | Time     | Alpha acid |
|---------------------|------------------------|--------|----------|------------|
| Boil                | Columbus/Tomahawk/Zeus | 10 g   | 60 min   | 12 %       |
| Boil                | ??                     | 20 g   | 10 min   | 10 %       |
| Aroma (end of boil) | ??                     | 30 g   | 5 min    | 10 %       |
| Dry Hop             | ??                     | 30 g   | 2 day(s) | 10 %       |

### Yeasts

| Name         | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale  | Dry  | 6 g    | Fermentis  |

### Extras

| Type        | Name            | Amount | Use for | Time   |
|-------------|-----------------|--------|---------|--------|
| Water Agent | Gips piwowarski | 1.5 g  | Boil    | 30 min |