

#? 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 |