

APA 13 blg

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **32**
- SRM **5.1**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **23 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.5 liter(s)**

Mash information

- Mash efficiency **65 %**
- Liquor-to-grist ratio **3.3 liter(s) / kg**
- Mash size **21.4 liter(s)**
- Total mash volume **27.9 liter(s)**

Steps

- Temp **64 C**, Time **40 min**
- Temp **72 C**, Time **20 min**
- Temp **77 C**, Time **20 min**

Mash step by step

- Heat up **21.4 liter(s)** of strike water to **70.7C**
- Add grains
- Keep mash **40 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **20 min** at **77C**
- Sparge using **12.6 liter(s)** of **76C** water or to achieve **27.5 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|---------------|-------|-----|
| Grain | Viking Pale Ale malt | 3 kg (46.2%) | 80 % | 5 |
| Grain | Viking Pilsner malt | 2 kg (30.8%) | 82 % | 4 |
| Grain | Viking Munich Malt | 0.5 kg (7.7%) | 78 % | 18 |
| Grain | Viking Wheat Malt | 0.5 kg (7.7%) | 83 % | 5 |
| Grain | Viking Vienna Malt | 0.5 kg (7.7%) | 79 % | 7 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|---------------------------|--------|----------|------------|
| Boil | Columbus/Tomahawk/Zeus US | 15 g | 60 min | 15.5 % |
| Boil | Chinook | 15 g | 20 min | 9 % |
| Aroma (end of boil) | Cascade PL | 20 g | 3 min | 5.2 % |
| Dry Hop | Cascade PL | 20 g | 3 day(s) | 5.2 % |
| Dry Hop | Chinook | 20 g | 3 day(s) | 9 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale | Dry | 20 g | LA FARGE |

Extras

| Type | Name | Amount | Use for | Time |
|--------|----------------|--------|---------|--------|
| Fining | mech irlandzki | 10 g | Boil | 15 min |