

APA v16 #120

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **33**
- SRM **4.9**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **17.2 liter(s)**
- Trub loss **5 %**
- Size with trub loss **18.4 liter(s)**
- Boil time **85 min**
- Evaporation rate **23 %/h**
- Boil size **24.8 liter(s)**

Mash information

- Mash efficiency **84.6 %**
- Liquor-to-grist ratio **3.85 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **18.9 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **77 C**, Time **7 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **72C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **20 min** at **72C**
- Keep mash **7 min** at **77C**
- Sparge using **13.7 liter(s)** of **76C** water or to achieve **24.8 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------|----------------|-------|-----|
| Grain | Pale ale - viking | 3 kg (76.9%) | 80 % | 5.5 |
| Grain | płatki owsiane | 0.4 kg (10.3%) | 83 % | 3 |
| Grain | pszeniczny - viking | 0.3 kg (7.7%) | 83 % | 5 |
| Grain | abbey - chateau | 0.2 kg (5.1%) | 78 % | 45 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|-------------|--------|----------|------------|
| Boil | Warrior | 10 g | 60 min | 14.7 % |
| Aroma (end of boil) | Amore Preta | 50 g | 5 min | 9 % |
| Aroma (end of boil) | EXP 2/20 | 50 g | 1 min | 7.5 % |
| Dry Hop | EXP 2/20 | 40 g | 2 day(s) | 7.5 % |
| Dry Hop | Amore Preta | 40 g | 2 day(s) | 9 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------------------------|------|-------|--------|------------|
| WLP090 - San Diego Super Yeast | Ale | Slant | 130 ml | White Labs |

Extras

| Type | Name | Amount | Use for | Time |
|-------------|------------------------|--------|----------|--------|
| Water Agent | gips | 2.5 g | Mash | --- |
| Water Agent | kwask mlekowy 80% [ml] | 4.47 g | Mash | --- |
| Water Agent | chlerek wapnia [ml] | 0 g | Mash | --- |
| Water Agent | epsom | 0.5 g | Mash | --- |
| Water Agent | mech irlandzki | 3 g | Boil | 10 min |
| Water Agent | kwask askorbinowy | 3 g | Bottling | --- |