

APA vXX #XX

- Gravity **13.3 BLG**
- ABV **5.5 %**
- IBU **37**
- SRM **4.9**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **16.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **17.7 liter(s)**
- Boil time **85 min**
- Evaporation rate **27 %/h**
- Boil size **24.9 liter(s)**

Mash information

- Mash efficiency **82.3 %**
- Liquor-to-grist ratio **3.92 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 **71.9C**
- 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 **24.9 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------|-----------------|-------|-----|
| Grain | piłzniejszy - viking | 0.3 kg (7.8%) | 81 % | 4 |
| Grain | Pale ale - viking | 2.9 kg (75.6%) | 80 % | 5.5 |
| Grain | pszeniczny - bestmalz | 0.3 kg (7.8%) | 83 % | 5 |
| Grain | wiedeński - viking | 0.086 kg (2.2%) | 79 % | 8.5 |
| Grain | karmelowy 30 - viking | 0.25 kg (6.5%) | 75 % | 30 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|----------|--------|----------|------------|
| Boil | Warrior | 14 g | 60 min | 14.7 % |
| Aroma (end of boil) | Oktawia | 30 g | 5 min | 7.8 % |
| Aroma (end of boil) | EXP 2/20 | 30 g | 1 min | 7.5 % |
| Aroma (end of boil) | Książęcy | 40 g | 1 min | 7 % |
| Dry Hop | EXP 2/20 | 20 g | 2 day(s) | 7.5 % |
| Dry Hop | Książęcy | 40 g | 2 day(s) | 7 % |
| Dry Hop | Izabela | 30 g | 2 day(s) | 5.1 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------------------------|------|-------|--------|------------|
| WLP090 - San Diego Super Yeast | Ale | Slant | 150 ml | White Labs |

Extras

| Type | Name | Amount | Use for | Time |
|-------------|------------------------|--------|----------|--------|
| Water Agent | gips | 2.5 g | Mash | --- |
| Water Agent | kwask mlekowy 80% [ml] | 4.52 g | Mash | --- |
| Water Agent | chlorek 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 | --- |