

## APA v22 #131

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- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **33**
- SRM **4.7**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **18.3 liter(s)**
- Trub loss **5 %**
- Size with trub loss **19.6 liter(s)**
- Boil time **80 min**
- Evaporation rate **21 %/h**
- Boil size **25.5 liter(s)**

### Mash information

- Mash efficiency **82.6 %**
- Liquor-to-grist ratio **3.65 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **19.1 liter(s)**

### Steps

- Temp **65 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 **71.2C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **7 min** at **77C**
- Sparge using **14.6 liter(s)** of **76C** water or to achieve **25.5 liter(s)** of wort

### Fermentables

| Type  | Name                  | Amount         | Yield | EBC |
|-------|-----------------------|----------------|-------|-----|
| Grain | pilzneński - viking   | 2 kg (48.8%)   | 80 %  | 3.6 |
| Grain | pale ale - viking     | 1.1 kg (26.8%) | 80 %  | 5.5 |
| Grain | pszeniczny - bestmalz | 0.3 kg (7.3%)  | 83 %  | 5   |
| Grain | wiedeński - viking    | 0.4 kg (9.8%)  | 78 %  | 9   |
| Grain | karmelowy 30 - viking | 0.3 kg (7.3%)  | 73 %  | 30  |

### Hops

| Use for             | Name              | Amount | Time     | Alpha acid |
|---------------------|-------------------|--------|----------|------------|
| Boil                | Warrior           | 9 g    | 60 min   | 14.7 %     |
| Aroma (end of boil) | Columbus          | 20 g   | 5 min    | 15.8 %     |
| Aroma (end of boil) | Simcoe            | 20 g   | 5 min    | 12.9 %     |
| Aroma (end of boil) | Falconer's Flight | 50 g   | 1 min    | 10.3 %     |
| Dry Hop             | Falconer's Flight | 50 g   | 1 day(s) | 10.3 %     |
| Dry Hop             | Hallertau Blanc   | 30 g   | 1 day(s) | 5.3 %      |

### Yeasts

| Name                 | Type | Form  | Amount | Laboratory       |
|----------------------|------|-------|--------|------------------|
| FM52 Amerykański Sen | Ale  | Slant | 150 ml | Fermentum Mobile |
| gęstwa 30-dniowa     |      |       |        |                  |

### Extras

| Type                        | Name                   | Amount | Use for  | Time   |
|-----------------------------|------------------------|--------|----------|--------|
| Water Agent                 | Gips                   | 2.5 g  | Mash     | ---    |
| Water Agent                 | kwask mlekowy 80% [ml] | 4.65 g | Mash     | ---    |
| Water Agent                 | chlerek wapnia [ml]    | 0 g    | Mash     | ---    |
| Water Agent                 | węglan wapnia/kreda    | 0 g    | Mash     | ---    |
| Water Agent                 | sól epsom              | 0.5 g  | Mash     | ---    |
| Fining                      | irish moss             | 3 g    | Boil     | 10 min |
| zastanowić się czy dodawać? |                        |        |          |        |
| Water Agent                 | kwask askorbinowy      | 3.6 g  | Bottling | ---    |