

## season apa

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- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **29**
- SRM **5.5**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.6 liter(s)**
- Total mash volume **20.8 liter(s)**

### Steps

- Temp **62 C**, Time **45 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **15.6 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **45 min** at **62C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **21.3 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

### Fermentables

| Type  | Name                 | Amount         | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 4.5 kg (86.5%) | 80 %  | 5   |
| Grain | Pszeniczny           | 0.5 kg (9.6%)  | 85 %  | 4   |
| Grain | Strzegom Karmel 150  | 0.2 kg (3.8%)  | 75 %  | 150 |

### Hops

| Use for             | Name     | Amount | Time     | Alpha acid |
|---------------------|----------|--------|----------|------------|
| Boil                | Galaxy   | 15 g   | 60 min   | 15 %       |
| Boil                | Galaxy   | 30 g   | 5 min    | 15 %       |
| Aroma (end of boil) | Amarillo | 30 g   | 0 min    | 9.5 %      |
| Dry Hop             | Amarillo | 50 g   | 4 day(s) | 9.5 %      |
| Dry Hop             | Citra    | 50 g   | 4 day(s) | 12 %       |

### Yeasts

| Name         | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale  | Dry  | 11 g   | ---        |