

## KPA (Kruszyńskie Pale Ale)

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **22**
- SRM **7.4**
- Style **Extra Special/Strong Bitter (English Pale Ale)**

### Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **29.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

### Steps

- Temp **67.5 C**, Time **70 min**
- Temp **78 C**, Time **10 min**

### Mash step by step

- Heat up **16.5 liter(s)** of strike water to **75.4C**
- Add grains
- Keep mash **70 min** at **67.5C**
- Keep mash **10 min** at **78C**
- Sparge using **18.5 liter(s)** of **76C** water or to achieve **29.5 liter(s)** of wort

### Fermentables

| Type  | Name                                      | Amount         | Yield | EBC |
|-------|-------------------------------------------|----------------|-------|-----|
| Grain | Viking Pale Ale Zero<br>5-7,5 EBC         | 4.5 kg (81.8%) | 80 %  | 7   |
| Grain | Viking Karmelowy<br>Jasny 30EBC           | 0.3 kg (5.5%)  | 75 %  | 30  |
| Grain | Płatki owsiane                            | 0.4 kg (7.3%)  | 85 %  | 3   |
| Grain | Viking Wiedeński<br>8-11 EBC              | 0.2 kg (3.6%)  | 79 %  | 10  |
| Grain | Weyramann<br>Caraaroma (R)<br>300-400 EBC | 0.1 kg (1.8%)  | --- % | 350 |

### Hops

| Use for | Name              | Amount | Time   | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil    | Marynka 8,5 % aa  | 20 g   | 55 min | 8.5 %      |
| Boil    | Marynka 8,5 % aa  | 20 g   | 10 min | 8.5 %      |
| Boil    | Żatecki 3,21 % aa | 20 g   | 0 min  | 3.21 %     |

### Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale  | Dry  | 11.5 g | Safale     |

## Extras

| Type        | Name            | Amount | Use for | Time   |
|-------------|-----------------|--------|---------|--------|
| Water Agent | gips piwowarski | 2.5 g  | Mash    | 70 min |