

## FR02

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- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **46**
- SRM **4.6**
- Style **American IPA**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **25.7 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.8 liter(s)**
- Total mash volume **21 liter(s)**

### Steps

- Temp **65 C**, Time **60 min**
- Temp **77 C**, Time **10 min**

### Mash step by step

- Heat up **15.8 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **10 min** at **77C**
- Sparge using **15.2 liter(s)** of **76C** water or to achieve **25.7 liter(s)** of wort

### Fermentables

| Type  | Name                        | Amount         | Yield | EBC |
|-------|-----------------------------|----------------|-------|-----|
| Grain | Słód Pale Ale Strzegom      | 4 kg (76.2%)   | 79 %  | 6   |
| Grain | Słód Pilzneński Viking Malt | 1 kg (19%)     | 80 %  | 4   |
| Grain | Słód Caramel Pale           | 0.25 kg (4.8%) | 77 %  | 8   |

### Hops

| Use for | Name       | Amount | Time     | Alpha acid |
|---------|------------|--------|----------|------------|
| Boil    | Chinook    | 15 g   | 60 min   | 13 %       |
| Boil    | Cascade    | 15 g   | 30 min   | 6 %        |
| Boil    | Citra      | 20 g   | 15 min   | 13 %       |
| Boil    | Lemon drop | 20 g   | 10 min   | 4.6 %      |
| Dry Hop | Chinook    | 40 g   | 7 day(s) | 13 %       |
| Dry Hop | Citra      | 30 g   | 7 day(s) | 13 %       |
| Dry Hop | Lemon drop | 30 g   | 7 day(s) | 46 %       |

### Yeasts

| Name                 | Type | Form | Amount | Laboratory |
|----------------------|------|------|--------|------------|
| Danstar - Nottingham | Ale  | Dry  | 11 g   | Danstar    |