

Kaskader

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **51**
- SRM **38.8**
- Style **Black IPA**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17.1 liter(s)**
- Total mash volume **22.8 liter(s)**

Steps

- Temp **64 C**, Time **50 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **17.1 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **50 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **17.6 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|----------------|-------|------|
| Grain | Viking Pale Ale malt | 2 kg (35.1%) | 80 % | 5 |
| Grain | Abbey Castle | 0.25 kg (4.4%) | 80 % | 45 |
| Grain | Weyermann - Carafa III | 0.45 kg (7.9%) | 70 % | 1300 |
| Grain | Płatki żytnie | 0.4 kg (7%) | 85 % | 3 |
| Grain | Weyermann - Chocolate Wheat | 0.15 kg (2.6%) | 74 % | 1000 |
| Grain | Weyermann - Carafa I | 0.25 kg (4.4%) | 70 % | 800 |
| Grain | Pszeniczny | 2.2 kg (38.6%) | 85 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|-----------|----------|--------|--------|------------|
| Boil | lunga | 35 g | 60 min | 11 % |
| Boil | Marynka | 15 g | 60 min | 10 % |
| Whirlpool | Galaxy | 20 g | 20 min | 15 % |
| Whirlpool | Cascade | 15 g | 20 min | 6 % |
| Whirlpool | Amarillo | 20 g | 20 min | 9.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|-------|--------|------------|
| US-05 | Ale | Slant | 150 ml | --- |

Notes

- Hopstand 70st C na 20min.
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