

Black violin

- Gravity **22 BLG**
- ABV **9.9 %**
- IBU **23**
- SRM **31.8**
- Style **Baltic Porter**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **5 %**
- Size with trub loss **12.6 liter(s)**
- Boil time **75 min**
- Evaporation rate **10 %/h**
- Boil size **16.9 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **17 liter(s)**
- Total mash volume **22.7 liter(s)**

Steps

- Temp **63 C**, Time **40 min**
- Temp **72 C**, Time **25 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **17 liter(s)** of strike water to **70.2C**
- Add grains
- Keep mash **40 min** at **63C**
- Keep mash **25 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **5.6 liter(s)** of **76C** water or to achieve **16.9 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------------|-----------------|--------|-----|
| Grain | Munich Malt | 2 kg (35.2%) | 80 % | 18 |
| Grain | Vienna Malt | 1.5 kg (26.4%) | 78 % | 8 |
| Grain | Briess - Pilsen Malt | 1.25 kg (22%) | 80.5 % | 2 |
| Grain | Fawcett - Pale Crystal | 0.375 kg (6.6%) | 72.8 % | 90 |
| Grain | Fawcett - Dark Crystal | 0.25 kg (4.4%) | 71 % | 300 |
| Grain | Chocolate Malt (UK) | 0.1 kg (1.8%) | 73 % | 887 |
| Grain | Briess - Black Malt | 0.1 kg (1.8%) | 55 % | 985 |
| Grain | Roasted Barley | 0.1 kg (1.8%) | 55 % | 591 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|-------------------|--------|--------|------------|
| Boil | Marynka | 20 g | 60 min | 10 % |
| Aroma (end of boil) | Lublin (Lubelski) | 10 g | 0 min | 4 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|------|------|------|--------|------------|
|------|------|------|--------|------------|

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|---------------------------------------|-------|-----|------|-----------------|
| Mangrove Jack's M84 Bohemian Lager | Lager | Dry | 22 g | Mangrove Jack's |
|---------------------------------------|-------|-----|------|-----------------|