

Panoramix

- Gravity **14 BLG**
- ABV ---
- IBU **53**
- SRM **4**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **23 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.5 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.8 liter(s)**
- Total mash volume **22.4 liter(s)**

Steps

- Temp **67 C**, Time **40 min**
- Temp **72 C**, Time **10 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **16.8 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **40 min** at **67C**
- Keep mash **10 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **16.3 liter(s)** of **76C** water or to achieve **27.5 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 3.3 kg (58.9%) | 80 % | 5 |
| Grain | Viking Wheat Malt | 1 kg (17.9%) | 83 % | 5 |
| Grain | Płatki pszeniczne | 0.8 kg (14.3%) | 85 % | 3 |
| Grain | Płatki owsiane | 0.5 kg (8.9%) | 85 % | 3 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|-------------------|--------|----------|------------|
| Boil | lunga | 25 g | 60 min | 11 % |
| Aroma (end of boil) | Puławski | 50 g | 15 min | 4.3 % |
| Aroma (end of boil) | Lublin (Lubelski) | 50 g | 10 min | 4 % |
| Aroma (end of boil) | Marynka | 50 g | 5 min | 10 % |
| Whirlpool | Puławski | 50 g | 0 min | 4.3 % |
| Whirlpool | Lubelski | 50 g | 0 min | 3.4 % |
| Whirlpool | Marynka | 50 g | 0 min | 10 % |
| Dry Hop | Lublin (Lubelski) | 50 g | 3 day(s) | 4 % |
| Dry Hop | Marynka | 50 g | 3 day(s) | 10 % |
| Dry Hop | Puławski | 50 g | 3 day(s) | 4.3 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| us-05 | Ale | Dry | 10 g | fermentis |