

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	Iunga	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