

paPils

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **50**
- SRM **3.7**
- Style **German Pilsner (Pils)**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.75 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **19 liter(s)**

Steps

- Temp **52 C**, Time **11 min**
- Temp **65 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **11 min**

Mash step by step

- Heat up **15 liter(s)** of strike water to **56.3C**
- Add grains
- Keep mash **11 min** at **52C**
- Keep mash **30 min** at **65C**
- Keep mash **30 min** at **72C**
- Keep mash **11 min** at **78C**
- Sparge using **14.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	3.5 kg (87.5%)	90 %	4
Grain	Monachijski	0.5 kg (12.5%)	90 %	16

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	20 g	60 min	10 %
Boil	Marynka	20 g	30 min	10 %
Boil	Lublin (Lubelski)	35 g	20 min	4 %

Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M84 Bohemian Lager	Lager	Dry	11 g	Mangrove Jack's
Rehydratyzowane ostudzoną brzeczka				

Notes

- po pierwszym kroku zacierania, dolano 4 litry wody temp.97 stopni
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Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.