

# 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  
*Mar 19, 2020, 5:43 PM*

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.