

marcowe

- Gravity **11.7 BLG**
- ABV **4.7 %**
- IBU **32**
- SRM **4.9**

Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **5 %**
- Size with trub loss **27.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **33 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **27 liter(s)**

Steps

- Temp **55 C**, Time **5 min**
- Temp **64 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **21 liter(s)** of strike water to **60C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **30 min** at **64C**
- Keep mash **5 min** at **78C**
- Sparge using **18 liter(s)** of **76C** water or to achieve **33 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------|--------------|-------|-----|
| Grain | słód pilzneński | 4 kg (66.7%) | --- % | 4 |
| Grain | słód monachijski | 2 kg (33.3%) | --- % | 15 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil | Marynka | 35 g | 70 min | 10 % |
| Boil | Lublin (Lubelski) | 5 g | 10 min | 4 % |