

Lichtenheiner

- Gravity **8.3 BLG**
- ABV **3.2 %**
- IBU **18**
- SRM **2.3**
- Style **Grodziskie/Graetzer**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **27.6 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **9 liter(s)**
- Total mash volume **12 liter(s)**

Steps

- Temp **55 C**, Time **5 min**
- Temp **66 C**, Time **45 min**
- Temp **71 C**, Time **15 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **9 liter(s)** of strike water to **60.8C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **45 min** at **66C**
- Keep mash **15 min** at **71C**
- Keep mash **5 min** at **78C**
- Sparge using **21.6 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------------------------|--------------|-------|-----|
| Grain | Grodziski pszeniczny wędzony dębem | 2 kg (66.7%) | 80 % | 3 |
| Grain | Viking Pilsner malt | 1 kg (33.3%) | 82 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|---------|--------|--------|------------|
| Boil | Marynka | 15 g | 60 min | 8.8 % |
| Aroma (end of boil) | Sybilla | 15 g | 5 min | 3.5 % |