

## PP Lichtenhainer

- Gravity **9.8 BLG**
- ABV **3.8 %**
- IBU **8**
- SRM **3.3**
- Style **Other Smoked Beer**

### Batch size

- Expected quantity of finished beer **5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **5.3 liter(s)**
- Boil time **75 min**
- Evaporation rate **17 %/h**
- Boil size **7.6 liter(s)**

### Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **3.9 liter(s)**
- Total mash volume **5 liter(s)**

### Steps

- Temp **65 C**, Time **60 min**
- Temp **78 C**, Time **1 min**

### Mash step by step

- Heat up **3.9 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **1 min** at **78C**
- Sparge using **4.8 liter(s)** of **76C** water or to achieve **7.6 liter(s)** of wort

### Fermentables

| Type  | Name                               | Amount          | Yield | EBC |
|-------|------------------------------------|-----------------|-------|-----|
| Grain | Pilzneński                         | 0.64 kg (57.5%) | 81 %  | 4   |
| Grain | Grodziski pszeniczny wędzony dębem | 0.36 kg (32.5%) | 80 %  | 3   |
| Grain | Wędzony bukiem Viking Malt         | 0.11 kg (10%)   | 82 %  | 10  |

### Hops

| Use for | Name     | Amount | Time   | Alpha acid |
|---------|----------|--------|--------|------------|
| Boil    | Tettnang | 4.44 g | 60 min | 4 %        |

### Yeasts

| Name  | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| US-05 | Ale  | Dry  | 6.11 g | Fermentis  |

### Notes

- Gotowanie przed zakwaszaniem: 15m  
Zakwaszanie Probiotykiem Sanprobi IBS (4 kapsułki) do około 3,9-4 ph  
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