

## Bitter Polish Hops #2

- Gravity **10.2 BLG**
- ABV **4.1 %**
- IBU **31**
- SRM **8.2**
- Style **Special/Best/Premium Bitter**

### 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 **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12 liter(s)**
- Total mash volume **16 liter(s)**

### Steps

- Temp **64 C**, Time **60 min**
- Temp **78 C**, Time **1 min**

### Mash step by step

- Heat up **12 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **60 min** at **64C**
- Keep mash **1 min** at **78C**
- Sparge using **19.6 liter(s)** of **76C** water or to achieve **27.6 liter(s)** of wort

### Fermentables

| Type  | Name                   | Amount         | Yield | EBC |
|-------|------------------------|----------------|-------|-----|
| Grain | Simpsons - Maris Otter | 3.3 kg (82.5%) | 81 %  | 6   |
| Grain | Fawcett - Crystal      | 0.3 kg (7.5%)  | 70 %  | 160 |
| Grain | Biscuit Malt           | 0.4 kg (10%)   | 79 %  | 45  |

### Hops

| Use for | Name     | Amount | Time   | Alpha acid |
|---------|----------|--------|--------|------------|
| Boil    | Marynka  | 15 g   | 60 min | 10 %       |
| Boil    | Lubelski | 10 g   | 20 min | 9 %        |
| Boil    | Zula     | 10 g   | 10 min | 9 %        |
| Boil    | Zula     | 20 g   | 5 min  | 9 %        |

### Yeasts

| Name                       | Type | Form  | Amount | Laboratory |
|----------------------------|------|-------|--------|------------|
| WLP002 - English Ale Yeast | Ale  | Slant | 70 ml  | White Labs |