

Full Aroma Hops

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **36**
- SRM **3.3**

Batch size

- Expected quantity of finished beer **180 liter(s)**
- Trub loss **2 %**
- Size with trub loss **183.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **5 %/h**
- Boil size **196.6 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **122.5 liter(s)**
- Total mash volume **157.5 liter(s)**

Steps

- Temp **40 C**, Time **0 min**
- Temp **62 C**, Time **15 min**
- Temp **72 C**, Time **45 min**

Mash step by step

- Heat up **122.5 liter(s)** of strike water to **42.9C**
- Add grains
- Keep mash **0 min** at **40C**
- Keep mash **15 min** at **62C**
- Keep mash **45 min** at **72C**
- Sparge using **109.1 liter(s)** of **76C** water or to achieve **196.6 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------|--------------|-------|-----|
| Grain | Pilzneński | 35 kg (100%) | 81 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|----------|------------|
| Boil | Magnum | 150 g | 60 min | 13.5 % |
| Boil | Lublin (Lubelski) | 300 g | 15 min | 4 % |
| Dry Hop | Lublin (Lubelski) | 100 g | 7 day(s) | 4 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|---------|--------|------------|
| Safale S-04 | Ale | Culture | 200 g | Safale |