

Kozioł do kwadratu #2

- Gravity **22.7 BLG**
- ABV **10.3 %**
- IBU **27**
- SRM **11.8**
- Style **Doppelbock**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **22 liter(s)**
- Total mash volume **30.8 liter(s)**

Steps

- Temp **50 C**, Time **1 min**
- Temp **62 C**, Time **30 min**
- Temp **72 C**, Time **45 min**
- Temp **78 C**, Time **1 min**

Mash step by step

- Heat up **22 liter(s)** of strike water to **56C**
- Add grains
- Keep mash **1 min** at **50C**
- Keep mash **30 min** at **62C**
- Keep mash **45 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **13.2 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------|----------------|--------|-----|
| Grain | Wiedeński | 4 kg (45.5%) | 79 % | 10 |
| Grain | IREKS Pilzneński | 2 kg (22.7%) | 80.5 % | 4 |
| Grain | Monachijski | 2.5 kg (28.4%) | 80 % | 16 |
| Grain | Biscuit Malt | 0.2 kg (2.3%) | 79 % | 45 |
| Grain | Special B Castle | 0.1 kg (1.1%) | 70 % | 400 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|---------------------------|--------|--------|------------|
| Boil | Magnum | 25 g | 60 min | 13.5 % |
| Aroma (end of boil) | Lubelski Polish Hops 2018 | 50 g | 5 min | 2.6 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|-------|-------|--------|------------|
| 34/70 | Lager | Slant | 350 ml | Fermentis |

Extras

| Type | Name | Amount | Use for | Time |
|--------|----------------|--------|---------|--------|
| Fining | Mech irlandzki | 5 g | Boil | 15 min |