

Bitter

- Gravity **10.4 BLG**
- ABV ---
- IBU **22**
- SRM **10.6**
- Style **Special/Best/Premium Bitter**

Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **10 %**
- Size with trub loss **13.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **15 %/h**
- Boil size **15.2 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **7.2 liter(s)**
- Total mash volume **9.6 liter(s)**

Steps

- Temp **68 C**, Time **60 min**
- Temp **75 C**, Time **10 min**

Mash step by step

- Heat up **7.2 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **10 min** at **75C**
- Sparge using **10.4 liter(s)** of **76C** water or to achieve **15.2 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|---------------------|----------------|-------|-----|
| Grain | Strzegom Pale Ale | 2 kg (83.3%) | 79 % | 6 |
| Grain | Strzegom Karmel 150 | 0.15 kg (6.3%) | 75 % | 150 |
| Grain | Oats, Flaked | 0.1 kg (4.2%) | 80 % | 2 |
| Grain | bursztynowy | 0.15 kg (6.3%) | 75 % | 70 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------|--------|--------|------------|
| Boil | Magnum | 10 g | 15 min | 13.5 % |
| Boil | Palisade | 15 g | 10 min | 7.5 % |
| Boil | Willamette | 20 g | 0 min | 5.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale | Dry | 6 g | Safale |