

apka

- Gravity **14.5 BLG**
- ABV **6 %**
- IBU **22**
- SRM **4.3**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **27 liter(s)**

Steps

- Temp **63 C**, Time **30 min**
- Temp **70 C**, Time **30 min**
- Temp **77 C**, Time **10 min**

Mash step by step

- Heat up **21 liter(s)** of strike water to **69.1C**
- Add grains
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **70C**
- Keep mash **10 min** at **77C**
- Sparge using **11.4 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------------|--------------|-------|-----|
| Grain | Pilzneński | 5 kg (83.3%) | 81 % | 4 |
| Grain | Briess - Pale Ale Malt | 1 kg (16.7%) | 80 % | 7 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------|--------|----------|------------|
| Boil | Cascade PL | 30 g | 45 min | 5.5 % |
| Aroma (end of boil) | Cascade PL | 70 g | 5 min | 5.2 % |
| Dry Hop | Zula | 100 g | 3 day(s) | 7 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|-------|--------|------------|
| Iutra | Ale | Slant | 100 ml | omega |