

American bitter

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **34**
- SRM **4.4**
- Style **Standard/Ordinary Bitter**

Batch size

- Expected quantity of finished beer **50 liter(s)**
- Trub loss **5 %**
- Size with trub loss **52.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **63.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **32.7 liter(s)**
- Total mash volume **43.6 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **72 C**, Time **15 min**
- Temp **77 C**, Time **10 min**

Mash step by step

- Heat up **32.7 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **77C**
- Sparge using **41.5 liter(s)** of **76C** water or to achieve **63.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 3 kg (27.5%) | 80 % | 5 |
| Grain | Strzegom Pilzneński | 5.8 kg (53.2%) | 80 % | 4 |
| Grain | Weyermann - Vienna Malt | 0.6 kg (5.5%) | 81 % | 8 |
| Grain | Strzegom Monachijski typ I | 0.5 kg (4.6%) | 79 % | 16 |
| Grain | Cookie | 0.3 kg (2.8%) | 78 % | 60 |
| Grain | Pszeniczny | 0.7 kg (6.4%) | 85 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------------------|--------|--------|------------|
| Boil | Columbus/Tomahawk/Zeus | 30 g | 60 min | 15.5 % |
| Boil | Amarillo | 20 g | 60 min | 9.5 % |
| Boil | Cascade | 15 g | 10 min | 6 % |
| Aroma (end of boil) | Citra | 30 g | 3 min | 12 % |