

Bitter po polsku

- Gravity **10 BLG**
- ABV **4 %**
- IBU **35**
- SRM **6.9**
- Style **Standard/Ordinary Bitter**

Batch size

- Expected quantity of finished beer **19 liter(s)**
- Trub loss **5 %**
- Size with trub loss **20.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.1 liter(s)**

Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **5.5 liter(s) / kg**
- Mash size **18.2 liter(s)**
- Total mash volume **21.5 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **18.2 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **78C**
- Sparge using **10.2 liter(s)** of **76C** water or to achieve **25.1 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 2.2 kg (66.7%) | 80 % | 6 |
| Grain | Viking Munich Malt | 1 kg (30.3%) | 78 % | 23 |
| Grain | Caramel/Crystal Malt - 120L | 0.1 kg (3%) | 72 % | 270 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|---------|--------|----------|------------|
| Boil | Marynka | 25 g | 60 min | 8.4 % |
| Boil | Marynka | 25 g | 10 min | 8.4 % |
| Dry Hop | Oktawia | 50 g | 3 day(s) | 7.1 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-----------------------|------|-------|--------|------------------|
| FM11 Wichrowe Wzgórza | Ale | Slant | 50 ml | Fermentum Mobile |

Extras

| Type | Name | Amount | Use for | Time |
|--------|------|--------|---------|-------|
| Fining | mech | 5 g | Boil | 5 min |

| | | | | |
|-------------|----------------|-----|------|--------|
| Water Agent | kwas fosforowy | 5 g | Mash | 60 min |
| Water Agent | gips | 3 g | Boil | 60 min |