

IPA kooperacja

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **45**
- SRM **5.2**

Batch size

- Expected quantity of finished beer **38 liter(s)**
- Trub loss **5 %**
- Size with trub loss **41.8 liter(s)**
- Boil time **60 min**
- Evaporation rate **7 %/h**
- Boil size **47.6 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **33.3 liter(s)**
- Total mash volume **44.4 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **33.3 liter(s)** of strike water to **74.8C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **25.4 liter(s)** of **76C** water or to achieve **47.6 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|---------------|-------|-----|
| Grain | Viking Pale Ale malt | 11 kg (99.1%) | 80 % | 5 |
| Grain | Strzegom Karmel 150 | 0.1 kg (0.9%) | 75 % | 150 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|-------------------|--------|--------|------------|
| Boil | Marynka | 80 g | 60 min | 10 % |
| Aroma (end of boil) | Lublin (Lubelski) | 100 g | 2 min | 4 % |
| Aroma (end of boil) | Marynka | 20 g | 2 min | 10 % |