

## Ostatnie Uderzenie #2

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- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **40**
- SRM **9**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.2 liter(s)**
- Boil time **70 min**
- Evaporation rate **10 %/h**
- Boil size **29.5 liter(s)**

### Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **8.8 liter(s)**
- Total mash volume **11.3 liter(s)**

### Steps

- Temp **69 C**, Time **70 min**
- Temp **78 C**, Time **15 min**

### Mash step by step

- Heat up **8.8 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **70 min** at **69C**
- Keep mash **15 min** at **78C**
- Sparge using **23.2 liter(s)** of **76C** water or to achieve **29.5 liter(s)** of wort

### Fermentables

| Type           | Name                           | Amount         | Yield  | EBC |
|----------------|--------------------------------|----------------|--------|-----|
| Grain          | Strzegom Wiedeński             | 1 kg (21.3%)   | 79 %   | 10  |
| Grain          | Pszeniczny                     | 0.5 kg (10.6%) | 85 %   | 4   |
| Grain          | Carared                        | 0.5 kg (10.6%) | 75 %   | 39  |
| Grain          | Pilzneński                     | 0.5 kg (10.6%) | 81 %   | 4   |
| Liquid Extract | Gozdawa ekstrakt słodowy jasny | 1.7 kg (36.2%) | 80 %   | 45  |
| Sugar          | Milk Sugar (Lactose)           | 0.5 kg (10.6%) | 76.1 % | 0   |

### Hops

| Use for             | Name        | Amount | Time   | Alpha acid |
|---------------------|-------------|--------|--------|------------|
| Boil                | Opal        | 10 g   | 60 min | 8.5 %      |
| Boil                | Hersbrucker | 15 g   | 30 min | 3 %        |
| Boil                | Perle       | 15 g   | 30 min | 7 %        |
| Aroma (end of boil) | Cascade     | 30 g   | 10 min | 6 %        |
| Aroma (end of boil) | Amarillo    | 20 g   | 10 min | 9.5 %      |
| Aroma (end of boil) | Mosaic      | 20 g   | 5 min  | 10 %       |
| Aroma (end of boil) | Simcoe      | 20 g   | 5 min  | 13.2 %     |

### Yeasts

| <b>Name</b>  | <b>Type</b> | <b>Form</b> | <b>Amount</b> | <b>Laboratory</b> |
|--------------|-------------|-------------|---------------|-------------------|
| Safale US-05 | Ale         | Slant       | 100 ml        | Fermentis         |