

Resztkowiec

- Gravity **11.4 BLG**
- ABV **4.6 %**
- IBU **32**
- SRM **3.9**
- Style **Kölsch**

Batch size

- Expected quantity of finished beer **27 liter(s)**
- Trub loss **5 %**
- Size with trub loss **28.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **34.2 liter(s)**

Mash information

- Mash efficiency **90 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **20 liter(s)**
- Total mash volume **25 liter(s)**

Steps

- Temp **52 C**, Time **15 min**
- Temp **63 C**, Time **65 min**
- Temp **73 C**, Time **10 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **20 liter(s)** of strike water to **56C**
- Add grains
- Keep mash **15 min** at **52C**
- Keep mash **65 min** at **63C**
- Keep mash **10 min** at **73C**
- Keep mash **5 min** at **78C**
- Sparge using **19.2 liter(s)** of **76C** water or to achieve **34.2 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------|--------------|-------|-----|
| Grain | Viking Pilsner malt | 2 kg (40%) | 82 % | 4 |
| Grain | Strzegom Monachijski typ I | 1 kg (20%) | 79 % | 16 |
| Grain | Strzegom Pszeniczny | 1 kg (20%) | 81 % | 6 |
| Grain | Płatki pszeniczne | 0.5 kg (10%) | 85 % | 3 |
| Grain | Płatki owsiane | 0.5 kg (10%) | 85 % | 3 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|---------|--------|--------|------------|
| Boil | Marynka | 5 g | 60 min | 8.5 % |
| Boil | Marynka | 10 g | 50 min | 8.5 % |
| Boil | Marynka | 10 g | 40 min | 8.5 % |
| Boil | Marynka | 10 g | 30 min | 8.5 % |
| Boil | Marynka | 10 g | 20 min | 8.5 % |
| Boil | Marynka | 15 g | 10 min | 8.5 % |
| Boil | Marynka | 10 g | 5 min | 8.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| Us-05 | Ale | Dry | 11.5 g | --- |