

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **13**
- SRM **3.9**
- Style **American Wheat or Rye Beer**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13.8 liter(s)**
- Total mash volume **18.4 liter(s)**

Steps

- Temp **50 C**, Time **30 min**
- Temp **64 C**, Time **45 min**
- Temp **70 C**, Time **20 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **13.8 liter(s)** of strike water to **55C**
- Add grains
- Keep mash **30 min** at **50C**
- Keep mash **45 min** at **64C**
- Keep mash **20 min** at **70C**
- Keep mash **10 min** at **78C**
- Sparge using **16.1 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|--------------------|----------------|-------|-----|
| Grain | Pilzneński | 1.5 kg (32.6%) | 81 % | 4 |
| Grain | Pszeniczny | 2.5 kg (54.3%) | 85 % | 4 |
| Grain | Strzegom Karmel 30 | 0.2 kg (4.3%) | 75 % | 30 |
| Grain | Płatki pszeniczne | 0.4 kg (8.7%) | 85 % | 3 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|----------|------------|
| Boil | Lublin (Lubelski) | 30 g | 60 min | 4 % |
| Dry Hop | Cascade | 20 g | 7 day(s) | 6 % |

Extras

| Type | Name | Amount | Use for | Time |
|-------|--------------|--------|---------|--------|
| Other | Łuska ryżowa | 250 g | Mash | 15 min |