

2 warka

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **12**
- SRM **14.5**
- Style **Specialty Beer**

Batch size

- Expected quantity of finished beer **24 liter(s)**
- Trub loss **5 %**
- Size with trub loss **26.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **31.7 liter(s)**

Mash information

- Mash efficiency **68 %**
- Liquor-to-grist ratio **2.8 liter(s) / kg**
- Mash size **19.6 liter(s)**
- Total mash volume **26.6 liter(s)**

Steps

- Temp **53 C**, Time **20 min**
- Temp **67 C**, Time **49 min**
- Temp **72 C**, Time **30 min**

Mash step by step

- Heat up **19.6 liter(s)** of strike water to **58.9C**
- Add grains
- Keep mash **20 min** at **53C**
- Keep mash **49 min** at **67C**
- Keep mash **30 min** at **72C**
- Sparge using **19.1 liter(s)** of **76C** water or to achieve **31.7 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-------------------------------|---------------|-------|-----|
| Grain | Pilzneński | 1 kg (14.3%) | 81 % | 4 |
| Grain | Strzegom Monachijski typ I | 2 kg (28.6%) | 79 % | 16 |
| Grain | Karmelowy Jasny 30EBC | 1 kg (14.3%) | 75 % | 30 |
| Grain | Viking melanoidynowy | 0.5 kg (7.1%) | 75 % | 60 |
| Grain | Karmelowy Pszeniczny Strzegom | 1 kg (14.3%) | 79 % | 130 |
| Grain | Carahell | 0.5 kg (7.1%) | 77 % | 26 |
| Grain | Weyermann - Carapils | 1 kg (14.3%) | 78 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------------------|--------|----------|------------|
| Boil | Columbus/Tomahawk/Zeus | 7 g | 60 min | 15.5 % |
| Aroma (end of boil) | Mosaic | 7 g | 10 min | 11.3 % |
| Dry Hop | Mosaic | 5 g | 5 day(s) | 11.3 % |
| Dry Hop | Columbus/Tomahawk/Zeus | 5 g | 5 day(s) | 15.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|-------|--------|------------|
| Safale S-04 | Ale | Slant | 500 ml | --- |

Extras

| Type | Name | Amount | Use for | Time |
|-------|-------------------|--------|-----------|----------|
| Other | Ananas | 1000 g | Secondary | 7 day(s) |
| Spice | Skórka pomarańczy | 10 g | Secondary | 7 day(s) |