

Merry Christmas

- Gravity **13.6 BLG**
- ABV **5.6 %**
- IBU **59**
- SRM **18.8**
- Style **Christmas/Winter Specialty Spiced Beer**

Batch size

- Expected quantity of finished beer **23 liter(s)**
- Trub loss **5 %**
- Size with trub loss **25.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **4 liter(s) / kg**
- Mash size **24 liter(s)**
- Total mash volume **30 liter(s)**

Steps

- Temp **65 C**, Time **60 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **24 liter(s)** of strike water to **70.6C**
- Add grains
- Keep mash **60 min** at **65C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **11 liter(s)** of **76C** water or to achieve **29 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|-----------------------------|----------------|-------|-----|
| Grain | Viking Pale Ale malt | 5 kg (83.3%) | 80 % | 5 |
| Grain | Strzegom Karmel 300 | 0.5 kg (8.3%) | 70 % | 299 |
| Grain | Strzegom Monachijski typ II | 0.35 kg (5.8%) | 79 % | 22 |
| Grain | Jęczmień palony | 0.15 kg (2.5%) | 55 % | 985 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|-------------------|--------|--------|------------|
| Boil | Magnum | 30 g | 60 min | 13.5 % |
| Boil | Lublin (Lubelski) | 20 g | 60 min | 4 % |
| Boil | Lublin (Lubelski) | 80 g | 15 min | 4 % |

Yeasts

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

Extras

| Type | Name | Amount | Use for | Time |
|-------|--------------------------|--------|---------|--------|
| Spice | imbir | 17 g | Boil | 15 min |
| Spice | cynamon | 17 g | Boil | 15 min |
| Spice | goździki | 7 g | Boil | 15 min |
| Spice | kardamon | 10 g | Boil | 15 min |
| Spice | przyprawa do piernika | 17 g | Boil | 15 min |