

AMSTuff

- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **56**
- SRM **25.7**
- Style **American Stout**

Batch size

- Expected quantity of finished beer **31 liter(s)**
- Trub loss **2 %**
- Size with trub loss **32.2 liter(s)**
- Boil time **80 min**
- Evaporation rate **10 %/h**
- Boil size **37.3 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **20.3 liter(s)**
- Total mash volume **27 liter(s)**

Steps

- Temp **62 C**, Time **10 min**
- Temp **72 C**, Time **45 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **20.3 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **10 min** at **62C**
- Keep mash **45 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **23.8 liter(s)** of **76C** water or to achieve **37.3 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------------------|-----------------|-------|------|
| Grain | pale ale | 5 kg (74%) | 80 % | 6 |
| Grain | Słód Caramunich Typ II Weyermann | 0.13 kg (1.9%) | 73 % | 120 |
| Grain | Strzegom Karmel 300 | 0.1 kg (1.5%) | 70 % | 299 |
| Grain | Weyermann Caramunich 3 | 0.2 kg (3%) | 76 % | 150 |
| Grain | Barwiący | 0.15 kg (2.2%) | 55 % | 1400 |
| Grain | Strzegom Czekoladowy ciemny | 0.15 kg (2.2%) | 68 % | 1200 |
| Grain | Czekoladowy | 0.2 kg (3%) | 60 % | 788 |
| Grain | Płatki owsiane | 0.83 kg (12.3%) | 85 % | 3 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------------------|--------|--------|------------|
| Boil | Columbus/Tomahawk/Zeus | 30 g | 60 min | 15.1 % |
| Boil | Columbus/Tomahawk/Zeus | 30 g | 15 min | 15.5 % |
| Boil | Cascade | 50 g | 5 min | 5.9 % |
| Aroma (end of boil) | Cascade | 50 g | 0 min | 5.9 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|-------|--------|------------|
| Safale S-04 | Ale | Slant | 150 ml | Safale |

Notes

- z 62 stopni na 72 - bardzo powolne podnoszenie temperatury (47 minut)!
Oct 17, 2020, 1:43 PM