

Grabie

- Gravity **13.2 BLG**
- ABV ---
- IBU **41**
- SRM **7.4**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **10 %**
- Size with trub loss **24.2 liter(s)**
- Boil time **70 min**
- Evaporation rate **15 %/h**
- Boil size **28.4 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15.9 liter(s)**
- Total mash volume **21.2 liter(s)**

Steps

- Temp **50 C**, Time **30 min**
- Temp **68 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **10 min**

Mash step by step

- Heat up **15.9 liter(s)** of strike water to **55C**
- Add grains
- Keep mash **30 min** at **50C**
- Keep mash **30 min** at **68C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **17.8 liter(s)** of **76C** water or to achieve **28.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|--------------------------------|---------------|-------|-----|
| Grain | Strzegom Pale Ale | 4 kg (75.5%) | 79 % | 6 |
| Grain | Strzegom Pilzniejszy | 1 kg (18.9%) | 80 % | 4 |
| Grain | Strzegom karmelowy bursztynowy | 0.3 kg (5.7%) | 70 % | 70 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|-------------|--------|--------|------------|
| Boil | Marynka | 25 g | 60 min | 10.5 % |
| Aroma (end of boil) | Mouteka | 20 g | 20 min | 8 % |
| Aroma (end of boil) | Citra | 20 g | 5 min | 12 % |
| Whirlpool | Pacific Gem | 30 g | 0 min | 15.3 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|-------|--------|------------|
| Safale S-04 | Ale | Slant | 200 ml | Safale |

Extras

Recipe has been printed via **BREWNES.com** - a complex online solution for homebrewers to track brewing process easily.

| Type | Name | Amount | Use for | Time |
|--------|----------------|--------|---------|--------|
| Fining | Mech irlandzki | 15 g | Boil | 15 min |