

HAPA

- Gravity **14.3 BLG**
- ABV **5.9 %**
- IBU **43**
- SRM **5.2**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **30 liter(s)**
- Trub loss **5 %**
- Size with trub loss **31.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **38 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **25.5 liter(s)**
- Total mash volume **34 liter(s)**

Steps

- Temp **68 C**, Time **90 min**

Mash step by step

- Heat up **25.5 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **90 min** at **68C**
- Sparge using **21 liter(s)** of **76C** water or to achieve **38 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|------------------------|----------------|-------|-----|
| Grain | Briess - Pale Ale Malt | 6.5 kg (76.5%) | 80 % | 7 |
| Grain | Strzegom Pszeniczny | 1 kg (11.8%) | 81 % | 6 |
| Grain | Strzegom Pilzneński | 1 kg (11.8%) | 80 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------------------|--------|--------|------------|
| Boil | Columbus/Tomahawk/Zeus | 45 g | 60 min | 12.5 % |
| Boil | Sterling | 20 g | 30 min | 4.5 % |
| Mash | Sterling | 20 g | 10 min | 4.5 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale | Dry | 11.5 g | Safale |