

Apa vol.2.1

- Gravity **13.1 BLG**
- ABV ---
- IBU **25**
- SRM **3.9**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **40 liter(s)**
- Trub loss **5 %**
- Size with trub loss **42 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **50.6 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.14 liter(s) / kg**
- Mash size **32.7 liter(s)**
- Total mash volume **43.1 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **32.7 liter(s)** of strike water to **74.5C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **78C**
- Sparge using **28.3 liter(s)** of **76C** water or to achieve **50.6 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|--------------------|---------------|-------|-----|
| Grain | Pilznieński | 10 kg (96.2%) | 81 % | 4 |
| Grain | Strzegom Karmel 30 | 0.1 kg (1%) | 75 % | 30 |
| Grain | Pszeniczny | 0.3 kg (2.9%) | 85 % | 4 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------------------|------------------|--------|--------|------------|
| Boil | mieszanka wlasna | 8 g | 45 min | 5 % |
| Boil | Centennial | 40 g | 45 min | 6 % |
| Aroma (end of boil) | Cascade | 50 g | 15 min | 3.5 % |
| Aroma (end of boil) | Cascade | 50 g | 5 min | 3.5 % |
| Aroma (end of boil) | Ioral | 30 g | 5 min | 12.9 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------|------|------|--------|------------|
| Safale US-05 | Ale | Dry | 11.5 g | Safale |
| Safale S-04 | Ale | Dry | 11.5 g | Safale |