

APA

- Gravity **12.1 BLG**
- ABV **4.9 %**
- IBU **47**
- SRM **4.5**
- Style **American Pale Ale**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **24.9 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **29.8 liter(s)**

Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.5 liter(s)**
- Total mash volume **22.5 liter(s)**

Steps

- Temp **66 C**, Time **75 min**
- Temp **76 C**, Time **15 min**

Mash step by step

- Heat up **17.5 liter(s)** of strike water to **72.6C**
- Add grains
- Keep mash **75 min** at **66C**
- Keep mash **15 min** at **76C**
- Sparge using **17.3 liter(s)** of **76C** water or to achieve **29.8 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|----------------------|--------------|--------|-----|
| Grain | Pale Ale optima | 4.5 kg (90%) | 81.6 % | 7 |
| Grain | pszeniczny Malteurop | 0.25 kg (5%) | 80 % | 6 |
| Grain | Weyermann - Carapils | 0.15 kg (3%) | 78 % | 4 |
| Grain | Słód Carahell (R) | 0.1 kg (2%) | 75 % | 25 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|------------|------------|--------|----------|------------|
| First Wort | lunga | 10 g | 60 min | 12.8 % |
| Boil | Citra | 10 g | 20 min | 12 % |
| Boil | Centennial | 15 g | 20 min | 9.7 % |
| Boil | Amarillo | 15 g | 20 min | 9.5 % |
| Boil | Citra | 10 g | 7 min | 12 % |
| Boil | Centennial | 15 g | 7 min | 9.7 % |
| Boil | Amarillo | 15 g | 7 min | 9.5 % |
| Dry Hop | Citra | 20 g | 4 day(s) | 12 % |
| Dry Hop | Amarillo | 20 g | 4 day(s) | 9.5 % |
| Dry Hop | Centennial | 20 g | 4 day(s) | 9.7 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|----------------------|------|-------|--------|--------------------|
| FM52 Amerykański Sen | Ale | Slant | 150 ml | gestwa po warce 26 |

Extras

| Type | Name | Amount | Use for | Time |
|--------|-------------|--------|---------|--------|
| Fining | Whirlfloc T | 1 g | Boil | 15 min |