

## s/m apa II

---

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **76**
- SRM **6**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **25.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **28.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **18 %/h**
- Boil size **36.7 liter(s)**

### Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **15 liter(s)**
- Total mash volume **20 liter(s)**

### Steps

- Temp **68 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **15 liter(s)** of strike water to **76C**
- Add grains
- Keep mash **30 min** at **68C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **26.7 liter(s)** of **76C** water or to achieve **36.7 liter(s)** of wort

### Fermentables

| Type  | Name   | Amount      | Yield  | EBC |
|-------|--|-------------|--------|-----|
| Grain | Weyermann - Pale Ale Malt                    | 3 kg (60%)  | 85 %   | 7   |
| Grain | Monachijski typ II<br>20-25 EBC<br>Weyermann | 1 kg (20%)  | 80 %   | 20  |
| Grain | Płatki jęczmienne                            | 0.4 kg (8%) | 85 %   | 3   |
| Grain | Rye, Flaked                                  | 0.4 kg (8%) | 78.3 % | 4   |
| Grain | Słód Caramunich<br>Typ II Weyermann          | 0.2 kg (4%) | 73 %   | 120 |

### Hops

| Use for              | Name                   | Amount | Time   | Alpha acid |
|----------------------|------------------------|--------|--------|------------|
| Boil                 | Columbus/Tomahawk/Zeus | 50 g   | 30 min | 17.5 %     |
| Boil                 | Simcoe                 | 25 g   | 10 min | 13.3 %     |
| Boil                 | Amarillo               | 25 g   | 10 min | 7.4 %      |
| Aroma (end of boil)  | Simcoe                 | 25 g   | 1 min  | 13.3 %     |
| Aroma (end of boil)  | Amarillo               | 25 g   | 1 min  | 7.4 %      |
| Whirlpool            | Simcoe                 | 50 g   | 0 min  | 13.3 %     |
| whirlpool 80°C 20min |                        |        |        |            |

|           |            |       |          |        |
|-----------|------------|-------|----------|--------|
| Whirlpool | Amarillo   | 50 g  | 0 min    | 7.4 %  |
| Whirlpool | Centennial | 50 g  | 0 min    | 10.5 % |
| Dry Hop   | Amarillo   | 100 g | 3 day(s) | 7.4 %  |
| Dry Hop   | Simcoe     | 100 g | 3 day(s) | 13.3 % |

### Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale  | Dry  | 11 g   | Safale     |

### Extras

| Type        | Name           | Amount | Use for | Time   |
|-------------|----------------|--------|---------|--------|
| Water Agent | chlerek wapnia | 5 g    | Mash    | 60 min |
| Flavor      | skórka cytryny | 25 g   | Boil    | 10 min |