

10#AS16

- Gravity **14.5 BLG**
- ABV **6 %**
- IBU **64**
- SRM **26.5**
- Style **American Stout**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **20.3 liter(s)**
- Total mash volume **26.1 liter(s)**

Steps

- Temp **68 C**, Time **90 min**
- Temp **68 C**, Time **15 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **20.3 liter(s)** of strike water to **74.9C**
- Add grains
- Keep mash **15 min** at **68C**
- Keep mash **90 min** at **68C**
- Keep mash **5 min** at **76C**
- Sparge using **11.9 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------------------|-----------------------------|----------------|-------|------|
| Grain | Strzegom Pale Ale | 3.9 kg (67.2%) | 79 % | 6 |
| Grain | Monachijski | 1.2 kg (20.7%) | 80 % | 16 |
| Grain | Caramel/Crystal Malt - 30L | 0.3 kg (5.2%) | 75 % | 59 |
| Grain | Strzegom Czekoladowy ciemny | 0.2 kg (3.4%) | 68 % | 1200 |
| zacieranie 15 min | | | | |
| Grain | Strzegom pszenica prażona | 0.2 kg (3.4%) | 70 % | 1000 |
| zacieranie 15 min | | | | |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|------------------------|--------|----------|------------|
| Boil | Columbus/Tomahawk/Zeus | 35 g | 60 min | 15.5 % |
| Boil | Cascade | 50 g | 10 min | 6 % |
| Dry Hop | Mosaic | 50 g | 4 day(s) | 10 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|--------------------------------------|-------------|-------------|---------------|-------------------|
| Mangrove Jack's M44 US West Coast | Ale | Dry | 10 g | Mangrove Jack's |