

3 pod rząd

- Gravity **17.5 BLG**
- ABV **7.5 %**
- IBU **21**
- SRM **43.2**
- Style **American Stout**

Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **45 min**
- Evaporation rate **10 %/h**
- Boil size **12.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **10.8 liter(s)**
- Total mash volume **14.4 liter(s)**

Steps

- Temp **65 C**, Time **30 min**
- Temp **72 C**, Time **25 min**

Mash step by step

- Heat up **10.8 liter(s)** of strike water to **72.5C**
- Add grains
- Keep mash **30 min** at **65C**
- Keep mash **25 min** at **72C**
- Sparge using **5.2 liter(s)** of **76C** water or to achieve **12.4 liter(s)** of wort

Fermentables

| Type | Name | Amount | Yield | EBC |
|-------|--------------------------------|---------------|-------|------|
| Grain | Pale ale | 2 kg (55.6%) | --- % | 4 |
| Grain | Monachijski | 1 kg (27.8%) | --- % | 13 |
| Grain | Cara crystal | 0.2 kg (5.6%) | --- % | 150 |
| Grain | Strzegom Czekoladowy ciemny | 0.2 kg (5.6%) | 68 % | 1200 |
| Grain | Jęczmień prażony | 0.2 kg (5.6%) | --- % | 1000 |

Hops

| Use for | Name | Amount | Time | Alpha acid |
|---------|----------|--------|--------|------------|
| Boil | Tomahawk | 10 g | 30 min | 15 % |

Yeasts

| Name | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Porter kwas | Ale | Dry | 12 g | --- |

Extras

| Type | Name | Amount | Use for | Time |
|--------|-------------|--------|---------|--------|
| Flavor | Kawa pażona | 100 g | Mash | 20 min |