

## Polish ćerne ale

- Gravity **8.5 BLG**
- ABV **3.3 %**
- IBU **24**
- SRM **11**

### Batch size

- Expected quantity of finished beer **70 liter(s)**
- Trub loss **5 %**
- Size with trub loss **73.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **88.5 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **35.4 liter(s)**
- Total mash volume **47.2 liter(s)**

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński	8 kg (67.8%)	81 %	4
Grain	Monachijski	2.5 kg (21.2%)	80 %	16
Grain	Żytni	0.7 kg (5.9%)	85 %	8
Grain	Weyermann - Carafa I	0.15 kg (1.3%)	70 %	690
dodane na wyśładzanie				
Grain	Carafa III	0.15 kg (1.3%)	70 %	1034
dodane na wyśładzanie				
Grain	Strzegom Czekoladowy jasny	0.3 kg (2.5%)	68 %	400
dodane na wyśładzanie				

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	marynka	28 g	30 min	8.8 %
Boil	Cascade PL	50 g	30 min	5.5 %
Boil	Cascade PL	50 g	5 min	5.5 %
Boil	Magnum	14 g	60 min	13.5 %
Boil	Cascade PL	50 g	1 min	5.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M44 US West Coast	Ale	Slant	300 ml	Mangrove Jack's