

Dunkel

- Gravity **8.8 BLG**
- ABV **3.4 %**
- IBU **20**
- SRM **18**
- Style **Munich Dunkel**

Batch size

- Expected quantity of finished beer **26 liter(s)**
- Trub loss **5 %**
- Size with trub loss **27.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **32.9 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **17.1 liter(s)**
- Total mash volume **22 liter(s)**

Steps

- Temp **62 C**, Time **50 min**
- Temp **70 C**, Time **20 min**

Mash step by step

- Heat up **17.1 liter(s)** of strike water to **68C**
- Add grains
- Keep mash **50 min** at **62C**
- Keep mash **20 min** at **70C**
- Sparge using **20.7 liter(s)** of **76C** water or to achieve **32.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Monachijski	4.3 kg (87.8%)	80 %	16
Grain	Pszeniczny	0.3 kg (6.1%)	85 %	4
Grain	Carafa II	0.2 kg (4.1%)	70 %	812
Grain	Strzegom Czekoladowy ciemny	0.1 kg (2%)	68 %	1200

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	18 g	65 min	9.5 %
Aroma (end of boil)	Hallertau Blanc	20 g	5 min	8.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
FM31 Bawarska Dolina	Lager	Slant	0.25 ml	Fermentum Mobile