

Dunkiel

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **40**
- SRM **19.9**
- Style **Munich Dunkel**

Batch size

- Expected quantity of finished beer **50 liter(s)**
- Trub loss **1 %**
- Size with trub loss **50.5 liter(s)**
- Boil time **60 min**
- Evaporation rate **1 %/h**
- Boil size **56.1 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **37.5 liter(s)**
- Total mash volume **50 liter(s)**

Steps

- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **10 min**

Mash step by step

- Heat up **37.5 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **10 min** at **76C**
- Sparge using **31.1 liter(s)** of **76C** water or to achieve **56.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	6 kg (48%)	82 %	4
Grain	Strzegom Monachijski typ II	6 kg (48%)	79 %	22
Grain	Strzegom Czekoladowy 1200	0.5 kg (4%)	68 %	1201

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	50 g	60 min	10 %
Boil	Jaryllo	25 g	30 min	15.7 %
Boil	Fuggles	50 g	10 min	4.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M84 Bohemian Lager	Lager	Dry	10 g	Mangrove Jack's