

Tmave

- Gravity **10 BLG**
- ABV **4 %**
- IBU **27**
- SRM **25.5**
- Style **Munich Dunkel**

Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.3 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **28.1 liter(s)**

Mash information

- Mash efficiency **77 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **13 liter(s)**
- Total mash volume **17.4 liter(s)**

Steps

- Temp **52 C**, Time **10 min**
- Temp **63 C**, Time **30 min**
- Temp **70 C**, Time **20 min**

Mash step by step

- Heat up **13 liter(s)** of strike water to **57.4C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **30 min** at **63C**
- Keep mash **20 min** at **70C**
- Sparge using **19.5 liter(s)** of **76C** water or to achieve **28.1 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pilzneński Soufflet	2.8 kg (64.4%)	81 %	4
Grain	Strzegom Karmel 150	1 kg (23%)	75 %	150
Grain	Carafa III Special	0.1 kg (2.3%)	70 %	1400
Grain	Weyermann - Chocolate Wheat	0.2 kg (4.6%)	74 %	1000
Grain	Strzegom Monachijski typ I	0.25 kg (5.7%)	79 %	16

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum szyszka	20 g	60 min	11.5 %
Aroma (end of boil)	Saaz (Czech Republic)	20 g	5 min	4.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
danstar lager	Lager	Slant	1000 ml	Lallemand

Extras

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.

Type	Name	Amount	Use for	Time
Fining	Mech	5 g	Boil	15 min