

## Munich Dunkel (MD)

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- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **20**
- SRM **17.4**
- Style **Munich Dunkel**

### Batch size

- Expected quantity of finished beer **13.5 liter(s)**
- Trub loss **5 %**
- Size with trub loss **14.2 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **17.1 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **11.5 liter(s)**
- Total mash volume **15.4 liter(s)**

### Steps

- Temp **54.4 C**, Time **30 min**
- Temp **64 C**, Time **50 min**
- Temp **68 C**, Time **40 min**
- Temp **75.5 C**, Time **15 min**

### Mash step by step

- Heat up **11.5 liter(s)** of strike water to **60.1C**
- Add grains
- Keep mash **30 min** at **54.4C**
- Keep mash **50 min** at **64C**
- Keep mash **40 min** at **68C**
- Keep mash **15 min** at **75.5C**
- Sparge using **9.4 liter(s)** of **76C** water or to achieve **17.1 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Monachijski typ I Weyermann	1.63 kg (42.4%)	72 %	14
Grain	Monachijski typ II 20-25 EBC Weyermann	1.61 kg (41.9%)	72 %	20
Grain	Pilzneński	0.5 kg (13%)	72 %	4
Grain	Carafa II Weyermann	0.1 kg (2.6%)	72 %	1150

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau Mittelfruh	35 g	60 min	3.1 %
Boil	Hallertau Mittelfruh	15 g	10 min	3.1 %

### Yeasts

Name	Type	Form	Amount	Laboratory
Wyeast 2308 Munich Lager	Lager	Liquid	125 ml	---

## Notes

- 17/11/2024 - warzenie  
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