

# Munich Dunkel

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- Gravity **13.8 BLG**
- ABV **5.7 %**
- IBU **20**
- SRM **19.7**
- Style **Munich Dunkel**

## Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **65 min**
- Evaporation rate **10 %/h**
- Boil size **12.7 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **8.4 liter(s)**
- Total mash volume **11.2 liter(s)**

## Steps

- Temp **64 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **8.4 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **30 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **7.1 liter(s)** of **76C** water or to achieve **12.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	BESTMALZ - Best Minich	2.5 kg (89.3%)	80.5 %	16
Grain	Weyermann - Carafa I	0.15 kg (5.4%)	70 %	690
Grain	BESTMALZ - Best Melanoidin	0.15 kg (5.4%)	75 %	71

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau	20 g	60 min	4.5 %
Boil	Hallertau	5 g	5 min	4.5 %

## Yeasts

Name	Type	Form	Amount	Laboratory
FM31 Bawarska Dolina	Lager	Liquid	47.62 ml	Fermentum Mobile