

# CZECH DARK LAGER

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- Gravity **11.2 BLG**
- ABV **4.5 %**
- IBU **34**
- SRM **13.4**
- Style **Schwarzbier**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **25.3 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **15.4 liter(s)**
- Total mash volume **19.8 liter(s)**

## Steps

- Temp **55 C**, Time **15 min**
- Temp **63 C**, Time **30 min**
- Temp **70 C**, Time **30 min**
- Temp **77 C**, Time **15 min**

## Mash step by step

- Heat up **15.4 liter(s)** of strike water to **60C**
- Add grains
- Keep mash **15 min** at **55C**
- Keep mash **30 min** at **63C**
- Keep mash **30 min** at **70C**
- Keep mash **15 min** at **77C**
- Sparge using **14.3 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Weyermann - Bohemian Pilsner Malt	3.5 kg (79.5%)	81 %	4
Grain	Weyermann Barke Munich Malt	0.4 kg (9.1%)	80 %	22
Grain	Słód Caramunich Typ II Weyermann	0.4 kg (9.1%)	73 %	120
Grain	Weyermann - Carafa III	0.1 kg (2.3%)	70 %	1024

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Perle	25 g	60 min	6.2 %
Boil	Saaz (USA)	80 g	10 min	4.7 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Mangrove Jack's M84 Bohemian Lager	Lager	Dry	22 g	Mangrove Jack's

## Notes

- <https://www.youtube.com/watch?v=cL3wip1MW2g>  
Four step double-decoction mash:
  - (Main mash) 131 F (55 C) for 15 min
  - (Decoction) Pull 12 qt (11.5 L) decoction and heat to 152 F (67 C) for 10 min
  - (Main mash) 146 F (63 C) for 30 min
  - (Decoction) Heat decoction to boil and boil for 30 min, then return to main mash
  - (Main mash) 158 F (70 C) for 30 min
  - (Decoction) Pull second 12 qt decoction and boil for 15 min then return to main mash
  - (Main mash) 170 F (77 C) for 15 min

*Nov 21, 2023, 12:11 PM*