

czorne jak alabama

- Gravity **12.9 BLG**
- ABV **5.2 %**
- IBU **24**
- SRM **21.1**
- Style **Munich Dunkel**

Batch size

- Expected quantity of finished beer **15 liter(s)**
- Trub loss **5 %**
- Size with trub loss **15.8 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **19.9 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **13.7 liter(s)**
- Total mash volume **17.6 liter(s)**

Steps

- Temp **65 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **13.7 liter(s)** of strike water to **71.4C**
- Add grains
- Keep mash **30 min** at **65C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **10.1 liter(s)** of **76C** water or to achieve **19.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Słód Pilsner® 2,5-4,5 EBC Weyermann	1.8 kg (46.2%)	80 %	4
Grain	castle- Light Munich Malt	1.5 kg (38.5%)	82 %	14
Grain	red ale viking malt	0.4 kg (10.3%)	75 %	70
Grain	weyermann - Pszeniczny Czekoladowy	0.2 kg (5.1%)	73 %	1001

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	15 g	60 min	10.9 %

Yeasts

Name	Type	Form	Amount	Laboratory
wyeast - 2308 munich lager	Lager	Liquid	1600 ml	---