Guiness test1

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **30**
- SRM **35.4**
- Style **Dry Stout**

Batch size

- Expected quantity of finished beer **18 liter(s)**
- Trub loss **5 %**
- Size with trub loss **18.9 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **23.8 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4.5 liter(s) / kg**
- Mash size **21.8 liter(s)**
- Total mash volume **26.7 liter(s)**

Steps

- Temp **66 C**, Time **60 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **21.8 liter(s)** of strike water to **71.1C**
- Add grains
- Keep mash **60 min** at **66C**
- Keep mash **5 min** at **76C**
- Sparge using **6.9 liter(s)** of **76C** water or to achieve **23.8 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking - Pale Ale malt	2 kg *(41.2%)*	80 %	6
Grain	Viking - Caramel Pale malt	1.5 kg *(30.9%)*	75 %	20
Grain	Weyermann - Carafa® Special typ II	0.35 kg *(7.2%)*	70 %	1150
Grain	Wayermann - Caramunich® typ I	0.2 kg *(4.1%)*	73 %	90
Grain	Jęczmień palony	0.2 kg *(4.1%)*	55 %	985
Grain	Płatki pszeniczne	0.3 kg *(6.2%)*	70 %	3
Grain	Płatki owsiane	0.3 kg *(6.2%)*	70 %	3

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	East Kent Goldings	35 g	60 min	6.3 %
Aroma (end of boil)	East Kent Goldings	15 g	5 min	6.3 %

Extras

Type	Name	Amount	Use for	Time

Flavor	laktoza	125 g	Mash	30 min