

zagraniczny ekstra tężni

- Gravity **15.2 BLG**
- ABV **6.3 %**
- IBU **40**
- SRM **41**
- Style **Foreign Extra Stout**

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 **60 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **20.7 liter(s)**
- Total mash volume **26.6 liter(s)**

Steps

- Temp **67 C**, Time **60 min**
- Temp **76 C**, Time **5 min**

Mash step by step

- Heat up **20.7 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **67C**
- Keep mash **5 min** at **76C**
- Sparge using **5.1 liter(s)** of **76C** water or to achieve **19.9 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	BESTMALZ - Best Pilsen	3.5 kg (59.3%)	80.5 %	4
Grain	Jęczmień palony	0.3 kg (5.1%)	55 %	985
Grain	weyermann - Pszeniczny Czekoladowy	0.3 kg (5.1%)	73 %	1001
Grain	Strzegom Bursztynowy (cookie)	0.5 kg (8.5%)	70 %	49
Grain	Oats, Flaked	0.4 kg (6.8%)	80 %	2
Grain	red ale viking malt	0.2 kg (3.4%)	75 %	70
Grain	Caramunich® typ I	0.4 kg (6.8%)	73 %	80
Grain	Żytni	0.3 kg (5.1%)	85 %	8

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	lunga	25 g	60 min	12 %
Aroma (end of boil)	saaz	10 g	5 min	2.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
FM13 Irlandzkie Ciemności	Ale	Liquid	1000 ml	---