

## 12 lat bez Mistrza

- Gravity **11.6 BLG**
- ABV ---
- IBU **18**
- SRM **4**
- Style **Other Smoked Beer**

### Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **10 %**
- Size with trub loss **22 liter(s)**
- Boil time **70 min**
- Evaporation rate **15 %/h**
- Boil size **25.9 liter(s)**

### Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **12 liter(s)**
- Total mash volume **16 liter(s)**

### Steps

- Temp **44 C**, Time **20 min**
- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **1 min**

### Mash step by step

- Heat up **12 liter(s)** of strike water to **48C**
- Add grains
- Keep mash **20 min** at **44C**
- Keep mash **45 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **1 min** at **78C**
- Sparge using **17.9 liter(s)** of **76C** water or to achieve **25.9 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pszeniczny	1.5 kg (37.5%)	85 %	4
Grain	Strzegom Pale Ale	1 kg (25%)	79 %	6
Grain	Casle Malting Whisky Nature	1 kg (25%)	85 %	4
Grain	Weyermann - Grodziski	0.5 kg (12.5%)	80 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hallertau	25 g	60 min	4.5 %
Boil	Hallertau	25 g	10 min	4.5 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM41 Gwoździe i Banany	Wheat	Liquid	30 ml	Fermentum Mobile

### Notes

- Podgrzewanie od 44 do 64 stopni trwało 10minut  
*Jan 6, 2016, 10:23 AM*