

## TDI

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- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **20**
- SRM **5.3**
- Style **Other Smoked Beer**

### Batch size

- Expected quantity of finished beer **22 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23.1 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.8 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **16.5 liter(s)**
- Total mash volume **22 liter(s)**

### Steps

- Temp **44 C**, Time **15 min**
- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **0 min**

### Mash step by step

- Heat up **16.5 liter(s)** of strike water to **48C**
- Add grains
- Keep mash **15 min** at **44C**
- Keep mash **45 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **0 min** at **78C**
- Sparge using **16.8 liter(s)** of **76C** water or to achieve **27.8 liter(s)** of wort

### Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pszeniczny wędz	3.5 kg (63.6%)	85 %	10
Grain	Strzegom Pilzneński	2 kg (36.4%)	80 %	4

### Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Marynka	20 g	60 min	10 %

### Yeasts

Name	Type	Form	Amount	Laboratory
FM41 Gwoździe i Banany	Wheat	Liquid	1000 ml	Fermentum Mobile