

# FES według "uCiesznego Browarku" :-)

- Gravity **15.4 BLG**
- ABV **6.5 %**
- IBU **32**
- SRM **24.5**
- Style **Foreign Extra Stout**

## Batch size

- Expected quantity of finished beer **21 liter(s)**
- Trub loss **5 %**
- Size with trub loss **22.1 liter(s)**
- Boil time **65 min**
- Evaporation rate **10 %/h**
- Boil size **26.7 liter(s)**

## Mash information

- Mash efficiency **82 %**
- Liquor-to-grist ratio **2.66 liter(s) / kg**
- Mash size **16 liter(s)**
- Total mash volume **22 liter(s)**

## Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **1 min**

## Mash step by step

- Heat up **16 liter(s)** of strike water to **72.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **30 min** at **72C**
- Keep mash **1 min** at **76C**
- Sparge using **16.7 liter(s)** of **76C** water or to achieve **26.7 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	płatki jęczmienne	0.4 kg (6.7%)	--- %	3
Grain	pilzneński Viking Malt	5 kg (83.3%)	--- %	4
Grain	jęczmień palony Weyermann	0.2 kg (3.3%)	--- %	1150
Grain	caraaroma Weyermann	0.3 kg (5%)	--- %	350
Grain	carafa I Weyermann	0.1 kg (1.7%)	--- %	900

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	East Kent Goldings	50 g	55 min	5.1 %
W oryginalnym przepisie Doris 35g Aurora				
Boil	East Kent Goldings	50 g	10 min	5.1 %
W oryginalnym przepisie Doris 45g Styrian Goldings				

## Yeasts

Name	Type	Form	Amount	Laboratory
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Safale S-04	Ale	Dry	11.5 g	Safale
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## Notes

- Jeśli lubisz mocny aromat palony (pożądany w stoucie) wrzuc ciemne słody od początku zacierania, jeśli lubisz piwa bardziej łagodne, to wrzuc palony jęczmień i sól barwiący na koniec zacierania.  
*Nov 22, 2018, 11:25 AM*