

# WHO

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- Gravity **22.5 BLG**
- ABV **10.2 %**
- IBU **35**
- SRM **17.9**
- Style **Strong Scotch Ale**

## Batch size

- Expected quantity of finished beer **10 liter(s)**
- Trub loss **5 %**
- Size with trub loss **10.5 liter(s)**
- Boil time **120 min**
- Evaporation rate **32 %/h**
- Boil size **18 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **16 liter(s)**
- Total mash volume **20.6 liter(s)**

## Steps

- Temp **68 C**, Time **60 min**
- Temp **79 C**, Time **5 min**

## Mash step by step

- Heat up **16 liter(s)** of strike water to **74.9C**
- Add grains
- Keep mash **60 min** at **68C**
- Keep mash **5 min** at **79C**
- Sparge using **6.6 liter(s)** of **76C** water or to achieve **18 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pale Ale malt	3.267 kg (69.9%)	80 %	5
Grain	Strzegom Wiedeński	0.4 kg (8.6%)	79 %	10
Grain	Jęczmień palony	0.045 kg (1%)	55 %	985
Sugar	Brown Sugar, Light	0.1 kg (2.1%)	100 %	16
Grain	Biscuit Malt	0.225 kg (4.8%)	79 %	45
Grain	Fawcett - Dark Crystal	0.135 kg (2.9%)	71 %	300
Grain	Monachijski	0.5 kg (10.7%)	80 %	16

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	15 g	45 min	12 %
Boil	Magnum	5 g	15 min	12 %
Boil	Sybilla	10 g	15 min	6 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Fm 10/11	Ale	Slant	100 ml	FM (Blend)

## Extras

Type	Name	Amount	Use for	Time
Water Agent	Łuska ryżowa	100 g	Mash	120 min
Water Agent	Kwas mlekowy	2 g	Mash	1 min
Dodatek do wody do wysładzania				
Water Agent	Chlorek wapnia	5 g	Mash	120 min
Water Agent	Pożywka dla drożdży	5.5 g	Boil	5 min
Cynk + 5g płatków drożdżowych				