

# czarny amstaf

- Gravity **15.6 BLG**
- ABV ---
- IBU **39**
- SRM **38.8**
- Style **American Stout**

## Batch size

- Expected quantity of finished beer **25 liter(s)**
- Trub loss **10 %**
- Size with trub loss **27.5 liter(s)**
- Boil time **70 min**
- Evaporation rate **15 %/h**
- Boil size **32.3 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21.6 liter(s)**
- Total mash volume **28.9 liter(s)**

## Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **15 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **21.6 liter(s)** of strike water to **71.3C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **15 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **17.9 liter(s)** of **76C** water or to achieve **32.3 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Strzegom Pale Ale	4 kg (55.4%)	79 %	6
Grain	Monachijski	2.5 kg (34.7%)	80 %	16
Grain	Strzegom Czekoladowy ciemny	0.2 kg (2.8%)	68 %	1200
Grain	Strzegom Barwiący	0.2 kg (2.8%)	68 %	1300
Grain	Jęczmień palony	0.015 kg (0.2%)	55 %	985
Grain	Fawcett - Crystal	0.3 kg (4.2%)	70 %	160

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Magnum	20 g	60 min	13.5 %
Boil	Perle	20 g	60 min	7 %
Boil	Perle	15 g	15 min	7 %
Boil	Perle	15 g	5 min	7 %

## Yeasts

Name	Type	Form	Amount	Laboratory
Safale S-04	Ale	Slant	500 ml	Safale

## Notes

- słody ciemne wsypać na 15 min. przed końcem zacierania.  
*Nov 20, 2015, 9:17 PM*