

# AMSTuff

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- Gravity **13.1 BLG**
- ABV **5.3 %**
- IBU **56**
- SRM **25.7**
- Style **American Stout**

## Batch size

- Expected quantity of finished beer **31 liter(s)**
- Trub loss **2 %**
- Size with trub loss **32.2 liter(s)**
- Boil time **80 min**
- Evaporation rate **10 %/h**
- Boil size **37.3 liter(s)**

## Mash information

- Mash efficiency **85 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **20.3 liter(s)**
- Total mash volume **27 liter(s)**

## Steps

- Temp **62 C**, Time **10 min**
- Temp **72 C**, Time **45 min**
- Temp **78 C**, Time **10 min**

## Mash step by step

- Heat up **20.3 liter(s)** of strike water to **69C**
- Add grains
- Keep mash **10 min** at **62C**
- Keep mash **45 min** at **72C**
- Keep mash **10 min** at **78C**
- Sparge using **23.8 liter(s)** of **76C** water or to achieve **37.3 liter(s)** of wort

## Fermentables

| Type  | Name                             | Amount          | Yield | EBC  |
|-------|----------------------------------|-----------------|-------|------|
| Grain | pale ale                         | 5 kg (74%)      | 80 %  | 6    |
| Grain | Słód Caramunich Typ II Weyermann | 0.13 kg (1.9%)  | 73 %  | 120  |
| Grain | Strzegom Karmel 300              | 0.1 kg (1.5%)   | 70 %  | 299  |
| Grain | Weyermann Caramunich 3           | 0.2 kg (3%)     | 76 %  | 150  |
| Grain | Barwiący                         | 0.15 kg (2.2%)  | 55 %  | 1400 |
| Grain | Strzegom Czekoladowy ciemny      | 0.15 kg (2.2%)  | 68 %  | 1200 |
| Grain | Czekoladowy                      | 0.2 kg (3%)     | 60 %  | 788  |
| Grain | Płatki owsiane                   | 0.83 kg (12.3%) | 85 %  | 3    |

## Hops

| Use for             | Name                   | Amount | Time   | Alpha acid |
|---------------------|------------------------|--------|--------|------------|
| Boil                | Columbus/Tomahawk/Zeus | 30 g   | 60 min | 15.1 %     |
| Boil                | Columbus/Tomahawk/Zeus | 30 g   | 15 min | 15.5 %     |
| Boil                | Cascade                | 50 g   | 5 min  | 5.9 %      |
| Aroma (end of boil) | Cascade                | 50 g   | 0 min  | 5.9 %      |

## Yeasts

| Name        | Type | Form  | Amount | Laboratory |
|-------------|------|-------|--------|------------|
| Safale S-04 | Ale  | Slant | 150 ml | Safale     |

## Notes

- z 62 stopni na 72 - bardzo powolne podnoszenie temperatury (47 minut)!  
*Oct 17, 2020, 1:43 PM*