

# KLOBORATION ESB

Extra Special/Strong Bitter (English Pale Ale) (8 C)

**Type:** All Grain  
**Batch Size:** 5.00 gal  
**Boil Size:** 8.24 gal  
**Boil Time:** 60 min  
**End of Boil Vol:** 6.24 gal  
**Final Bottling Vol:** 4.25 gal  
**Fermentation:** Ale, Two Stage

**Date:** 04 Dec 2014  
**Brewer:** Andy VanderKlok  
**Asst Brewer:**  
**Equipment:** Stainless Kegs (10 Gal/37.8 L) - All Grain  
**Efficiency:** 70.00 %  
**Est Mash Efficiency:** 84.0 %  
**Taste Rating:** 30.0



## Taste Notes:

## Ingredients

Amt	Name	Type	#	%/IBU
9 lbs 8.0 oz	Pale Malt (2 Row) US (2.0 SRM)	Grain	1	91.6 %
8.0 oz	Caramel/Crystal Malt - 20L (20.0 SRM)	Grain	2	4.8 %
4.0 oz	Biscuit Malt (23.0 SRM)	Grain	3	2.4 %
2.0 oz	Chocolate (Briess) (350.0 SRM)	Grain	4	1.2 %
1.25 oz	East Kent Goldings (EKG) [5.00 %] - Boil 60.0 min	Hop	5	21.9 IBUs
1.25 oz	Fuggie [4.50 %] - Boil 60.0 min	Hop	6	19.7 IBUs
1.50 oz	East Kent Goldings (EKG) [5.00 %] - Boil 5.0 min	Hop	7	5.2 IBUs
1.50 oz	Fuggie [4.50 %] - Boil 5.0 min	Hop	8	4.7 IBUs
2.0 pkg	English Ale (White Labs #WLP002) [35.49 ml]	Yeast	9	-

## Gravity, Alcohol Content and Color

**Est Original Gravity:** 1.053 SG  
**Est Final Gravity:** 1.017 SG  
**Estimated Alcohol by Vol:** 4.7 %  
**Bitterness:** 51.6 IBUs  
**Est Color:** 8.7 SRM

**Measured Original Gravity:** 0.000 SG  
**Measured Final Gravity:** 1.010 SG  
**Actual Alcohol by Vol:** -75.8 %  
**Calories:** 34.4 kcal/12oz

## Mash Profile

**Mash Name:** Single Infusion, Medium Body  
**Sparge Water:** 6.24 gal  
**Sparge Temperature:** 168.0 F  
**Adjust Temp for Equipment:** FALSE

**Total Grain Weight:** 10 lbs 6.0 oz  
**Grain Temperature:** 72.0 F  
**Tun Temperature:** 72.0 F  
**Mash PH:** 5.20

## Mash Steps

Name	Description	Step Temperature	Step Time
Mash In	Add 4.24 gal of water at 160.9 F	152.0 F	60 min

**Sparge:** Fly sparge with 6.24 gal water at 168.0 F

**Mash Notes:** Simple single infusion mash for use with most modern well modified grains (about 95% of the time).

## Carbonation and Storage

**Carbonation Type:** Bottle  
**Pressure/Weight:** 3.34 oz  
**Keg/Bottling Temperature:** 70.0 F  
**Fermentation:** Ale, Two Stage

**Volumes of CO2:** 2.3  
**Carbonation Used:** Bottle with 3.34 oz Corn Sugar  
**Age for:** 30.00 days  
**Storage Temperature:** 65.0 F

## Notes

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