HIGH-TEMPERATURE RESISTANT GEOPOLYMER PIZZA OVEN

Jason Learned

Geopolymer Camp 2015
I HAD A LOT OF DREAMS
IN MY LIFE....

...see Dakota Badlands
I HAD A LOT OF DREAMS IN MY LIFE....

...be surrounded by beautiful women
I HAD A LOT OF DREAMS
IN MY LIFE....

...have son
I HAD A LOT OF DREAMS
IN MY LIFE....

...build pizza oven
AND I STILL HAVE THEM
AND MAKE THEM HAPPEN
AND I STILL HAVE THEM 
AND MAKE THEM HAPPEN 

• I wanted to build more interesting 
and multifunctional pizza oven than 
the standard shown here
OVEN REQUIREMENTS

• more than one way to heat the pizza oven

• utilisation of the smoke

• built in fireplace

• lighting

• long term cooking
WHY GEOPOLYMER?

• ease of use
• space requirements
• durability
• heat resistance
• density
BUILDING PROCESS

• České lupkové závody a. s.
  • Baucis L 160 combined with KOH and water glass
• high silica sand (1/2 fine, 1/2 coarse)
BUILDING PROCESS

- forms are painted with wax and sealed for one week
BUILDING PROCESS

- firebrick and insulation are separated from geopolymer with cling film
- brick base has sand foundation
BUILDING PROCESS

• walls and door are geopolymer
• vault is firebrick for replacability
BUILDING PROCESS

- unmolded with electrical conduit installed
- thermal mass cap in place
BUILDING PROCESS

- aluminum insulation layer
- tall form required extra bracing
BUILDING PROCESS

- outer surround form
- putting in rockwool and perlit insulation
BUILDING PROCESS

- ready for steel
BUILDING PROCESS

- welding flue and base
BUILDING PROCESS

- test firing
- after diamond sanding
COOKING

- pizza with coals
- roast beef in cleaned oven
IMPROVEMENTS

- precasting internal pizza oven bricks that fit together like LEGO's
- replacable plug directly above rocket stove
- wider hood
QUESTIONS?
THANK YOU!