

# Carbon Footprint Comparison

## pumice stone

### in denim washing machines

**Mining pumice stone:** It is an environmentally low-impact process because most pumice stone is surface-mined.

### Transporting the pumice stone:

Depends on 2 factors:

- the distance between mining sites and pumice
- the distance between pumice stone factories and denim factories

### IN THE FACTORY

#### Storage:

Denim factories need to reserve a substantially large space to store pumice stone. Reason:

- Pumice stone melts away quickly so the factories need a tremendous amount of pumice stone supply

#### Water usage:

Using pumice stone in denim washing processes contaminate the water and require more water during the processes. Reason:

- Pumice stone melts away quickly and consequently contaminates the water

#### Energy Usage:

Most of the pumice stone washing processes require the water to be heated.

#### Wastewater Systems:

Due to its nature, pumice stone contaminates the water quickly, becoming a burden on the wastewater systems.

#### Earth contamination:

The waste from the wastewater systems is usually buried down, contaminating the earth and harming the environment around.

## HMS

### in denim washing machines

**This step is fully skipped.**  
**Environmental impact is reduced to 0.**

**This step is also skipped.**

### IN THE FACTORY

#### Storage:

Factories will need **less storage space** since the same volume of HMS is up to **60** times more durable than the pumice stone.

#### Water usage:

For denim washing, HMS requires **20% less water per load**. It melts away up to **60** times slower than the pumice stone. This mean less water contamination.

#### Energy Usage:

HMS works with cold water.  
**No energy wasted to heat** the water.

#### Wastewater Systems:

**60** times more durable HMS consequently contaminates water **60** times less. The wastewater systems will be **less contaminated** and **more manageable**.

#### Earth contamination:

Minimal- The sludge from the wastewater systems is used to remake HMS because **HMS is recyclable**.