



# PRODUCT DATA

**Brand Name:**

**REF PATCH X-13**

**Description:** Phosphate bonded, high alumina, highest quality matrix plastic refractory with high strength, volume stability, good workability and excellent adhesion properties. Highly resistant to abrasion, slag attack and metal penetration.

Physical properties shown are average values of samples taken under controlled conditions  
ASTM test methods used where applicable

**Maximum Service Temperature: 3250°F (1788°C)**

**Bulk Density (pcf)**

After 220°F (105°C)	185	(2.96 g/cm <sup>3</sup> )
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**Modulus of Rupture (psi)**

After 220°F (105°C)	1100	(77 kg/cm <sup>2</sup> )
After 1500°F (815°C)	2400	(168 kg/cm <sup>2</sup> )
After 2500°F (1371°C)	1800	(126 kg/cm <sup>2</sup> )

**Permanent Linear Change (%)**

After 220°F (105°C)	-0.03
After 1500°F (815°C)	-0.2
After 2500°F (1371°C)	+0.2

**Typical Chemical Analysis (%)**

(Calcined Basis)

Alumina (Al <sub>2</sub> O <sub>3</sub> ) .....	85.7
Silica (SiO <sub>2</sub> ) .....	8.2
Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) .....	3.7
Other .....	2.5

Brand Code: 2407

The properties shown on this data sheet represent typical average results using standard ASTM test methods (unless otherwise noted) conducted under controlled condition (using standard rectangular shapes), and should not be considered to be guaranteed specifications. Properties are subject to normal manufacturing statistical standard deviation ranges, and Resco Products, Inc. reserves the right to modify the properties and specifications at any time without prior notice.

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