



**TECHNICAL BULLETIN 106**  
**Aggregate Extension Guidelines**  
**Concrete Repair**

For placements greater than 2 inches (50 mm) in depth, Five Star® Structural Concrete, Five Star® Structural Concrete ES, Five Star® Structural Concrete S 300, Five Star® Structural Concrete UW PG, Five Star® Rapid Repair and Five Star® Rapid Repair ES should be extended with a clean, washed coarse aggregate meeting the requirements of ASTM C 33. Coarse aggregate size typically should not exceed 1/3 the depth of the repair.

When mixing in a mortar mixer, add coarse aggregate after initial mixing of Five Star® Concrete Repair material with mix water for 2-3 minutes. Continue mixing until coarse aggregate is uniformly wetted with repair material. Ensure larger size aggregates can be mixed properly in mortar mixer.

For mixes using a concrete mixer (rotating drum mixer) add water and coarse aggregate to mixer first with mixer running followed by repair material. Concrete mixers are acceptable when extending repair material with coarse aggregate.

Depth of Pour	% By Weight Aggregate Extension (per 50 lb (22.7 kg) bag of repair material)	Actual Weight Aggregate Extension (per 50 lb (22.7 kg) bag of repair material)
Up to 2 inches (50 mm)	0%	0 lbs/kg
2 to 6 inches (50 - 150 mm)	50%	25 lbs (11.3 kg)
6 to 9 inches (150 - 225 mm)	60%	30 lbs (13.6 kg)
9 to 12 inches (225 - 300 mm)	80%	40 lbs (18.1 kg)
Over 12 inches (over 300 mm)	Contact Five Star Products	

*Repair material yield will increase with coarse aggregate extension depending upon aggregate size, extension level, air content and specific gravity of aggregate. Typically a 50% by weight extension (by weight) will increase yield by approximately 35%. Actual yield attained in the field will vary and should be verified where greater accuracy is required.*

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