



**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.*

Five Star Technical Bulletins are provided for informational purposes only and should be used as general guidelines for consideration by contractors and engineers. While every reasonable effort has been made to ensure this information is accurate and authoritative, Five Star Products does not warrant the accuracy or completeness of this information, or its appropriateness for any particular purpose. The user of these documents remains solely responsible for the specification of all methods, materials and practices.

**Five Star Products, Inc.**  
**Corporate Headquarters**  
 750 Commerce Drive  
 Fairfield, CT 06825 USA  
 Tel: 203-336-7900 • Fax: 203-336-7930  
<http://www.fivestarproducts.com>

