Flexural Response of Concrete Beam Reinforced With Bundled FRP Rebars

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Objectives:
1. To Study the effect of bundling FRP Rebar
2. To verify applicability of equations for calculating flexural capacity by ACI 440 to the bundled bars

Background:
In heavily reinforced members like dams, retaining walls, the conventional method of spacing reinforcement results in honeycombing, Air pockets, loosely placed concrete. These defects can be avoided by bundling.

Equivalent area method
Conventional spacing  Bundled bars  Equivalent area

TEST SETUP

Load  Strain Transducer  Support  Load

Load-Deflection Curve at Mid span

Conclusions:
Bundling is a safe and acceptable detailing procedure which can be conveniently and effectively adopted in the field for higher quality concrete, required strength and durability.