# Methodologies

Full details of the methods used to create the datasets are provided in:

Spadea, S., Orr, J., Nanni, A., and Yang, Y. (2016). "Wound FRP shear reinforcement for concrete structures." Journal of Composites for Construction, ASCE, under review.

#Data Files

All the raw and processed data are presented in the following excel files:

 ‘Tensile tests wet layup’

 ‘Tensile tests prepreg’

 ‘Stirrups tests’

 ‘Flexural tests’

# Dataset variables

In: ‘Tensile tests wet layup’

 ‘Tensile tests prepreg’

Fu ultimate load (kN)

F25% 25% of ultimate load (kN)

F50% 50% of ultimate load (kN)

25% strain measured at 25% of ultimate load (%)

50% strain measured at 50% of ultimate load (%)

u strain measured at ultimate load (%)

E25-50% modulus of elasticity based on (25%,F25%)and (50%,F50%)data points (GPa)

E100% modulus of elasticity based on (0,0)and (u,Fu) data points (GPa)

ELR modulus of elasticity based on Linear Regression on data between 25% and 50% of ultimate load (GPa)

In: ‘stirrups tests’

wf width(mm)

tf thickness (mm)

Af cross section area (mm2)

tfi equivalent thickness (mm)

dfe equivalent diameter (mm)

Fu ultimate load on straight reinforcement (one leg)(kN)

Fb ultimate load on bent reinforcement (two legs)(kN)

ffb/ffu bent reinforcement to straight reinforcement stress ratio

1 ultimate strain USG1 (%)

2 ultimate strain USG2 (%)



In: ‘Flexural tests’

F1 Point Load at jack 1(kN)

F2 Point Load at jack 2(kN)

F Total Load (kN)

d1 displacement at jack 1(mm)

d2 displacement at jack 2(mm)

d midspan displacement (mm)

USG1 strain measured by USG 1 (%)

USG2 strain measured by USG 1 (%)

USG3 strain measured by USG 1 (%)

