ABBRIVATIONS

Ast	Area of Tensile reinforcement in mm^2
A	Area of individual web reinforcement bar (mm)
a	Shear span of the beam
b,bw	Width of beam (mm)
x_u	Depth of Neutral axis (mm)
Cc	Concrete cover
C1	Empirical coefficient equal to 1.4 and 1.0 for Normal weight and Light weight concrete respectively
C2	Empirical coefficient equal to 130 N/mrn^2 for Plain round bars and 300 N/mm^2 for Deformed bars
d	Effective depth of beam (mm)
da	Maximum size of coarse aggregate
d_c	Distance from centroid of reinforcement to bottom of beam (mm)
df	Diameter of Fiber in mm
D, h	Overall depth of the beam in mm
f_y	Yield stress of steel in N/mm^2
fck	Characteristic compressive strength of concrete in N/mm^2
f_s	Tensile stress in reinforcement (N/mm^2)
f'_c	Compressive strength of cylinder in MPa
$f\,t$	Split cylinder tensile strength (N/mm^2)
lf	Length of Fiber
l	Effective span of the beam
Lc	Ultimate shear crack length (mm)
m	Modular ratio
pt	Percentage of Steel ($\frac{Ast}{bd} x\ 100\%$)
s	Maximum bar spacing
yi	The depth at which an individual web bar intersects the potential diagonal crack

V	Ultimate shear strength of the beam (N)
V_c	Shear resistant offered by concrete Strength in N
V_p	Shear resistant offered by restressing of concrete
Vs	Shear resistant offered by stirrups (vertical reinforcement)
Vf	Volume of Fiber in %
Wc	First Crack Load
W_{max}	Maximum crack width (mm)
Wu	Ultimate Load
A_a	$A_e/_n$ = effective area of concrete around steel bar ($mm^{2)}$
a/d	Shear span to depth ratio
$\frac{lf}{df}$	Aspect ratio of fiber
l/D	Effective length to Depth ratio
β	$1.17\sqrt{fck}$ for Steel fibers
β	$0.07\sqrt{fck}$ for Monofilament Polypropylene fibers
$\boldsymbol{\beta}$	Size effect constant
$\boldsymbol{\phi_c}$	Resistant factor for concrete (taken as 0.65)
Φ	Diameter of bar (mm)
ρ_t	Longitudinal reinforcement ratio
ρ_w	Shear reinforcement ratio
ε_s	Strain in rebar
ε_c	Strain in concrete at level of reinforcement
$\boldsymbol{\lambda}$	Factor used for light weight concrete (for normal concrete taken as unity)
λo	Constant