Equation	Main assumptions/technique	Ref.
$\frac{S_T}{S_L} = 1 + \frac{u'}{S_L}$	Continuous wrinkled laminar flame. $l >> \delta_l$	Damköhler (1940)
$\frac{S_T}{S_L} = [1 + (\frac{2u'}{S_L})^2]^{1/2}$	Continuous wrinkled laminar flame. $l >> \delta_l$, $u' < S_L$	Shchelkin (1947)
$\frac{S_T}{S_L} = 1 + (\frac{u'}{S_L})^2$	Formulation of kinematic aspects of flame wrinkling and of the consequent influences on the speed of turbulent flames.	Clavin & Williams (1979)
$\frac{S_T}{S_L} = 3.5(\frac{u'}{S_L})^{0.7}$	Simplified model of turbulence characterized by a single length scale, and a single velocity scale.	Klimov (1983)
$\frac{S_T}{S_L} = (\frac{u'}{S_L})^{0.5}\ Re_\eta^{1.5}$	Pair-exchange model.	Kerstein (1988)
$\frac{S_T}{S_L} = 1 + 5.3\frac{u'}{S_L^{0.5}}$	Curve fit to experiment.	Liu & Lenze (1989)
$\frac{S_T}{S_L} = 1 + 0.6(\frac{u'}{S_L})^{1/2}\ Re_L^{1/4}$	Isotropic turbulence. $u' \to 0$, $S_T/S_L \to 1$	Gülder (1990)
$\frac{S_T}{S_L} = 1.26 + 0.38\frac{u'}{S_L}$	In the framework of a nonlinear model which incorporates the Landau-Darrieus instability mechanism.	Cambray & Joulin (1994)
$\frac{S_T}{S_L} = 1 + (\frac{u'}{S_L})^{4/3}$	The mean passage rate of a propagating interface, subject to random advection or random variation of the local propagation speed, is investigated analytically and computationally.	Kerstein & Ashurst (1994)

Equation	Main assumptions/technique	Ref.
$\frac{S_T}{S_L} \approx Re_L^{1/2}$	For small-scale, high-intensity turbulence.	Damköhler (1940)
$\frac{S_T}{S_L} \approx Re_L^{0.24}$	$Re_L > 100$ and $S_L/u' \rightarrow 0$	Abdel-Gayed & Bradley (1977)
$\frac{S_T}{S_L} \approx \{1+[\frac{\overline{(u')^2}}{S_L^2}]\}^{1/2}$	Isotropic turbulence.	Clavin & Williams (1979)
$\frac{S_T}{S_L} \approx C(\frac{u'}{S_L})\, Re_L$	For $u'/S_L > 3.9$ and confined flames.	Libby et al. (1979)
$\frac{S_T}{S_L} = 2.1(\frac{u'}{S_L})$	Monte Carlo simulation of a modeled transport equation for joint *pdf* of velocities and a reaction progress variable.	Pope & Anand (1985)
$\frac{S_T}{S_L} = Re_L^{1/4}$	Fractal flame surface with outer cutoff L and inner cutoff η.	Gouldin (1987)
$\frac{S_T}{S_L} = \frac{u'}{S_L}$	Fractal flame surface with outer cutoff L and inner cutoff Gibson Scale, L_G.	Peters (1988)
$\frac{S_T}{S_L} = \exp[\frac{(u'/S_L)^2}{(S_T/S_L)^2}]$	Formulation through dynamic renormalixetion group method.	Yakhot (1988)
$\frac{S_T}{S_L} = \exp[\frac{(u'/S_L)^2}{(S_T/S_L)^2}]$	Assumption of exponential growth of a strained interface.	Kerstein (1988)
$\frac{S_T}{S_L} = C(\frac{u'}{S_L})$	C = 2.42, zero heat release. C = 7.25, large heat release.	Bray (1990)
$\frac{S_T}{u'} = 6.4(\frac{S_L}{u'})^{3/4}$	Curve fit to experiment.	Gülder (1990)
$\frac{S_T}{S_L} \approx [1+(\frac{u'}{S_L})^2]^{1/2}$	In a reinterpretation of the physical picture of Clavin & Williams.	Kerstein & Ashurst (1992)
$\frac{S_T}{S_L} = 2.53(\frac{u'}{S_L})$	Curve fit to experiment.	Bédat & Cheng (1995)