The function which is used within tempfit.pro to create the model spectrum is:

$$F(\lambda) = \sum_{i}^{N_{BB}} A_i \cdot \frac{Planck_i(\lambda, T_i[K])}{\max(Planck_i)} \cdot Ext_i^{BB}(\lambda) \cdot \prod_{j}^{N_{abs_i}^{BB}} e^{-\tau_{i,j} \cdot Abs_{i,j}(\lambda)}$$

$$+ \sum_{i}^{N_{PL}} B_i \cdot \frac{\nu^{P_i}(\lambda)[Hz]}{\max(\nu^{P_i})} \cdot Ext_i^{PL}(\lambda) \cdot \prod_{k}^{N_{abs_i}^{PL}} e^{-\tau_{i,k} \cdot Abs_{i,k}(\lambda)}$$

$$+ \sum_{i}^{N_{Template}} C_i \cdot \frac{template_i(\lambda)}{\max(template_i)} \cdot Ext_i^{template}(\lambda) \cdot \prod_{l}^{N_{abs_i}^{template}} e^{-\tau_{i,l} \cdot Abs_{i,l}(\lambda)}$$

for screen extinction the extinction factor is:

$$Ext_i(\lambda) = 10^{-0.4 \cdot A_{v_i} \cdot \log_{10}(Extinctioncurve(\lambda))}$$

for mixed extinction the extinction factor is:

$$Ext_i(\lambda) = \frac{1 - e^{-\tau_i(\lambda)}}{\tau_i(\lambda)} \quad \text{mit} \quad \tau_i(\lambda) = A_{v_i} \cdot 0.4 \cdot \log_{10}(Extinctioncurve(\lambda))$$

the fitparameters are :
$A_i, B_i, C_i, P_i, \tau_{i,j}, \tau_{i,k}, \tau_{i,l}, A_{v_i}, T_i$

max(Planck),max(ν^{P_i}),max(template) means the maximum of each expression within the wavelength range of the fit ➔ easier first guess for A_i, B_i, C_i

$Abs_{x,y}$: are the individual absorption features

$F(\lambda)$ is interpreted in units of Jy . The fit minimizes the difference between $F(\lambda)$ and the spectrum to be fitted.