Present calculation	$\frac{-P}{(1+\nu)E_i+2(1-2\nu_i)E}$ at $r=a$	$\frac{-P}{(1+\nu)E_i+2(1-2\nu_i)E}$ at $r=a$	$\frac{3K(K_i-K)}{K\lfloor 3K_i+4G\rfloor}$	

† Note: τ_{max} in Hahn and Rosenfield's equation goes to infinity as $K_i \to 0$.

$-P$: External hydrostatic pressure,
ν, ν_i: Poisson's ratio of the matrix and inclusion, respectively,
K, K_i: Bulk modulus of the matrix and inclusion, respectively,
$(-P_i)$: Internal pressure,
r: Radius vector,
τ_{max}: Maximum shear stress,
σ_{rr}, $\sigma_{\theta\theta}$, $\sigma_{\phi\phi}$: Radial, circumferential and azimuthal stress, respectively,
a: The radius of the inclusion,
G: Shear modulus of the matrix,
E, E_i: Young's modulus of the matrix and inclusion, respectively.

and copper matrix as a function of the applied hydrostatic pressure

Matrix	Hydrostatic pressure	τ_{max} (p.s.i.)									
		Cavity				Rigid inclusion		Elastic inclusion‡			
		With zero internal pressure		With internal pressure (helium bubble)†				Thorium dioxide		Hafnium carbide	
Tungsten	10 kb	111×10^3	$\frac{G}{200}$	—	—	79×10^3	$\frac{G}{275}$	$24{\cdot}7\times10^3$	$\frac{G}{900}$	$17{\cdot}0\times10^3$	$\frac{G}{1300}$
	20 kb	222×10^3	$\frac{G}{100}$	—	—	159×10^3	$\frac{G}{137{\cdot}5}$	$49{\cdot}4\times10^3$	$\frac{G}{450}$	$34{\cdot}0\times10^3$	$\frac{G}{650}$
	25 kb	278×10^3	$\frac{G}{80}$	—	—	200×10^3	$\frac{G}{110}$	$61{\cdot}8\times10^3$	$\frac{G}{360}$	$42{\cdot}5\times10^3$	$\frac{G}{520}$
	40 kb	444×10^3	$\frac{G}{50}$	—	—	318×10^3	$\frac{G}{68{\cdot}8}$	$98{\cdot}8\times10^3$	$\frac{G}{225}$	$68{\cdot}0\times10^3$	$\frac{G}{325}$
Copper	10 kb	111×10^3	$\frac{G}{60}$	98×10^3	$\frac{G}{68}$	61×10^3	$\frac{G}{108}$	—	—	—	—
	20 kb	222×10^3	$\frac{G}{30}$	196×10^3	$\frac{G}{34}$	122×10^3	$\frac{G}{54}$	—	—	—	—
	25 kb	278×10^3	$\frac{G}{24}$	245×10^3	$\frac{G}{27}$	153×10^3	$\frac{G}{43{\cdot}5}$	—	—	—	—

Data‡ used in the stress calculations for tungsten and copper.

	Tungsten	Thorium dioxide	Hafnium carbide	Copper
Shear modulus G (p.s.i.)	22×10^6	—	—	$6{\cdot}6\times10^6$
Young's modulus E (p.s.i.)	$56{\cdot}5\times10^6$	—	—	$16{\cdot}1\times10^6$
Poisson's ratio ν	0·27	—	—	0·33
Bulk modulus K (p.s.i.)	$40{\cdot}9\times10^6$	$25{\cdot}9\times10^6$	$30{\cdot}7\times10^6$	$15{\cdot}8\times10^6$

† Calculated on the basis of an internal pressure of 1·2 kb for the size of the bubble of 500 Å in radius.
‡ All data taken from Cottrell (1964 b) except for ThO_2 and HfC (Shaffer 1964).