

## Calculating a, b and n value for Material Law2 in RADIOSS

### Product: RADIOSS

**Product Version:** 12.0 and above

#### Topic Objective

For the material law 2, Johnson-Cook material plastic yield stress (a), Plastic hardening parameter (b) and plastic hardening exponent (n) values has to be calculated. A simplified approach is available for calculating these parameters.

#### Procedure

Keep input type flag (Iflag) option to 1 in the material card. A simplified input of Yield-Stress, Ultimate-Stress (UTS in engineering stress), and strain at UTS (which is between 0.5 – 0.9 of failure strain) will be recalculate to the Johnson-Cook values a,b,n internally. The Starter output file has the values.

# HyperWorks Tips + Tricks

Name	Value
Include File	[Master Model]
Defined	<input checked="" type="checkbox"/>
User Comments	Hide In Menu/Export
Card Image	M2_PLAS_JOHNS_ZERIL
Type	PLAS_JOHNS
Regular_OR_encrypted_flag	Regular
RefRho_Option	<input type="checkbox"/>
Rho_Initial	
E	
nu	
Iflag	1
SIGMA_Y	
UTS	
E_UTS	
EPS_p_max	
SIG_max0	
c	
EPS_DOT_0	
ICC	
Fsmooth	
Fcut	