Propellant Data

Propellant & combustion products physical/thermochemical properties						
Propellant type				[Type 1] KNDX-65/35	[Type 2] KNSO-65/35	[Type 3] Other KNER-65/35
	symb.	units	notes			
Grain mass density, ideal	ρ_p	g/cm^3		1,879	1,841	1,8199
Ratio of specific heats, 2-ph.	k	-	[1]	1,043	1,042	1,0426
Ratio of specific heats, mixture	k	-	[2]	1,1308	1,1361	1,1391
Effective molecular wt.	M	kg/kmol	[3]	42,39	39,9	38,78
Chamber temperature	To	K	[4]	1710	1600	1600

Notes:
[1] For the dynamic (zero lag) gas-particle mixture.
[2] For the static gas-particle mixture.
[3] Given by *system mass* divided by number of *gas moles* in system.
[4] Adiabatic flame temperature.

Additional Notes:
KNDX-65/35 = Potassium Nitrate/Dextrose, 65/35 O/F ratio
KNSO-65/35 = Potassium Nitrate/Sorbitol, 65/35 O/F ratio
KNSU-65/35 = Potassium Nitrate/Sucrose, 65/35 O/F ratio

Propellant Burn Rate Empirical Data

KNER 65/35						
Pressure range		a	n	Pressure range	a	n
Pressure, psia		psi, in/sec		Pressure, Mpa	Mpa, mm/sec	
0 to	5000	0,0068	0,539	0 to		