Identification for Mooney model: Hardness (65), Damping (Large), V=2

LS-DYNA

Mooney model

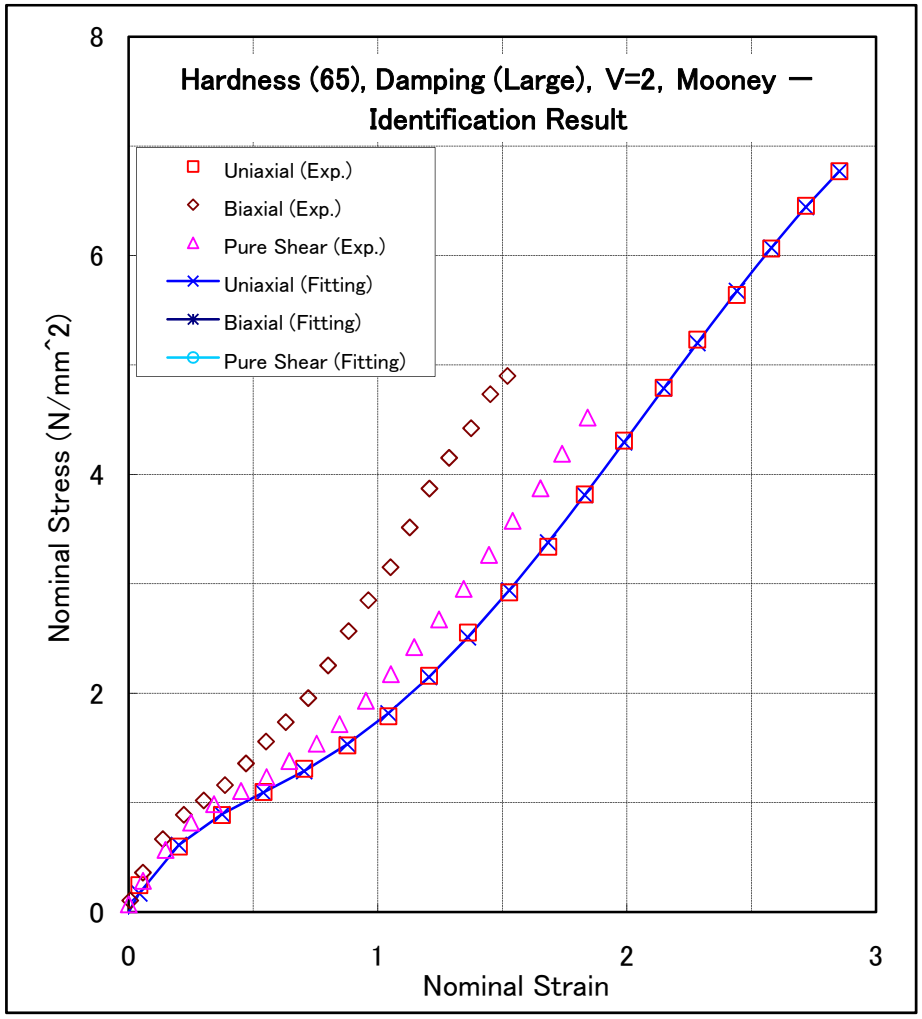
$$W = \sum_{m=1}^{N}\sum_{n=1}^{N} C_{mn}(J_1 - 3)^m (J_2 - 3)^n$$

Rate of Loading in Tension Test(s)

2 mm/s

Coefficient

Coefficient	
C10 (C1)	2.6560E-01
C01 (C2)	4.4090E-01
C20 (C3)	-8.3030E-02
C11 (C4)	5.6200E-01
C02 (C5)	-7.3570E-01
C30 (C6)	-2.0850E-04
C21 (C7)	
C12 (C8)	
C03 (C9)	
C40 (C10)	



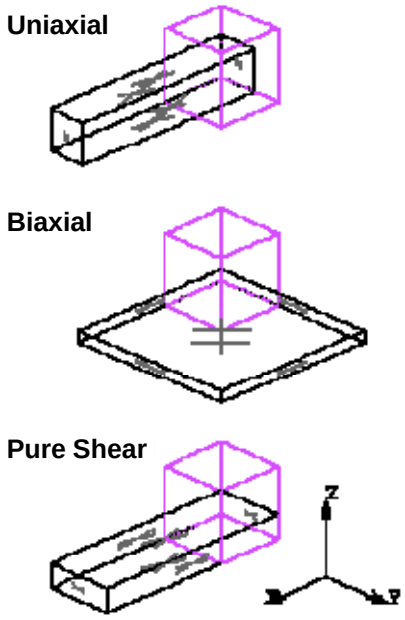
Identification result: Stress-strain relationship

Analysis with Mooney model: Hardness (65), Damping (Large), V=2

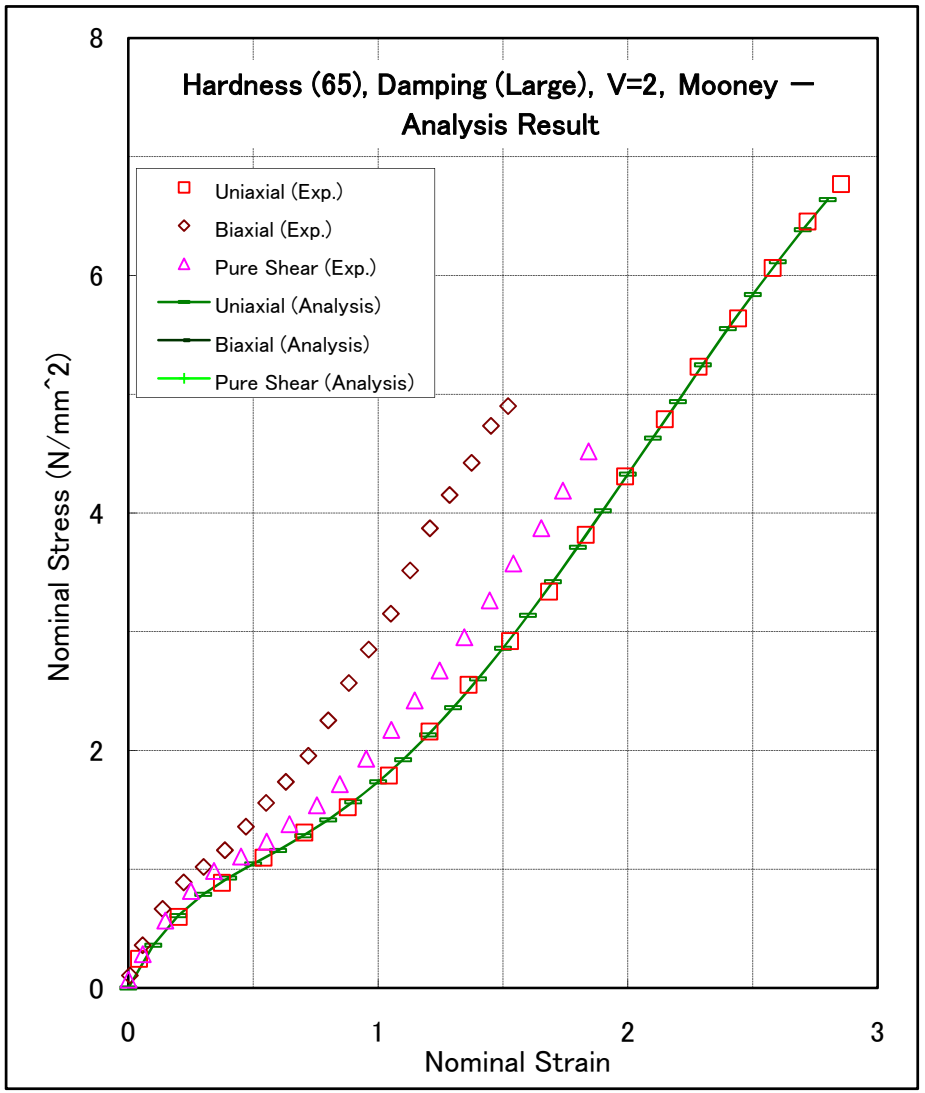
Japan Association for Nonlinear CAE

LS-DYNA

Input File: input1.dat (Uniaxial)
input2.dat (Biaxial)
input3.dat (Pure Shear)



Analysis model



Analysis result:
Stress-strain relationship

Identification for Mooney model: Hardness (65), Damping (Large), V=20

LS-DYNA

Mooney model

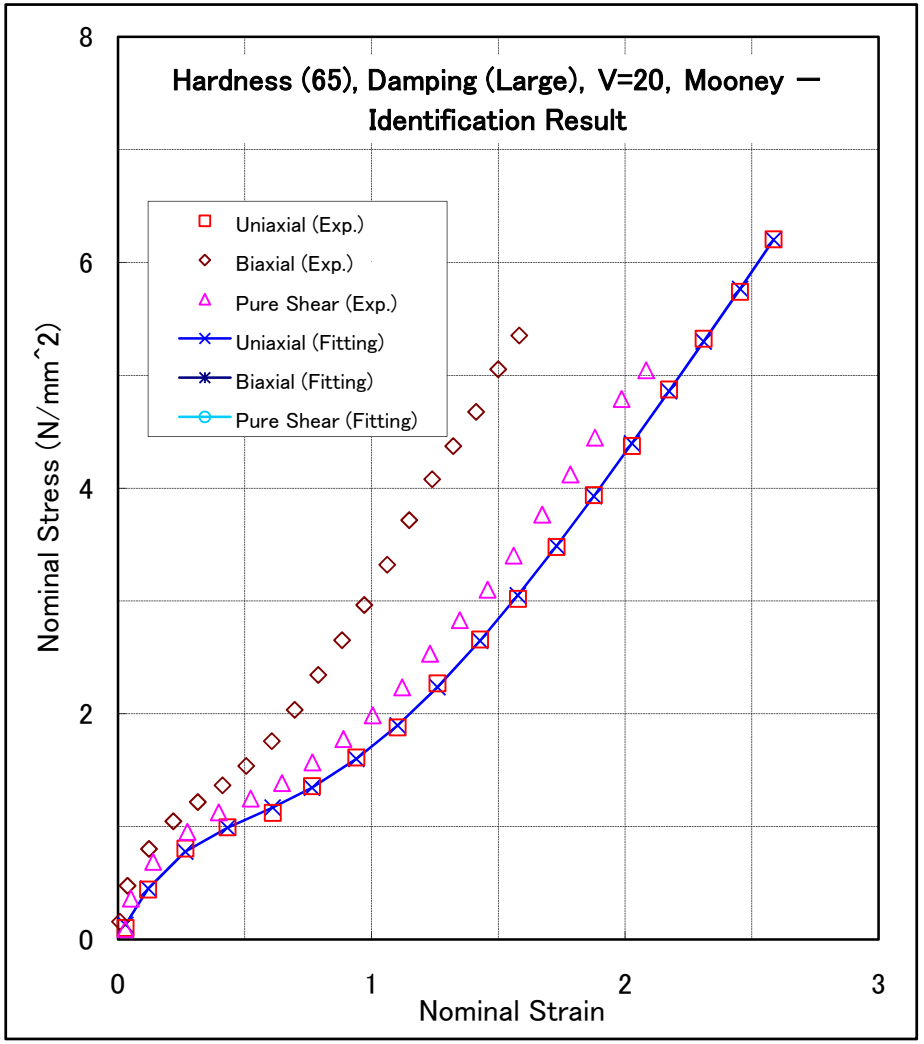
$$W = \sum_{m=1}^{N}\sum_{n=1}^{N} C_{mn}(J_1 - 3)^m (J_2 - 3)^n$$

Rate of Loading in Tension Test(s)

20 mm/s

Coefficient

Coefficient	
C10 (C1)	3.0150E-01
C01 (C2)	4.7940E-01
C20 (C3)	-2.2580E-01
C11 (C4)	1.0800E+00
C02 (C5)	-1.2790E+00
C30 (C6)	1.4000E-03
C21 (C7)	
C12 (C8)	
C03 (C9)	
C40 (C10)	



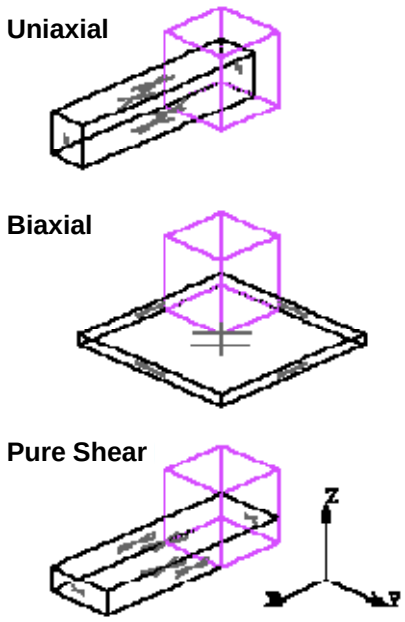
Identification result: Stress-strain relationship

Analysis with Mooney model: Hardness (65), Damping (Large), V=20

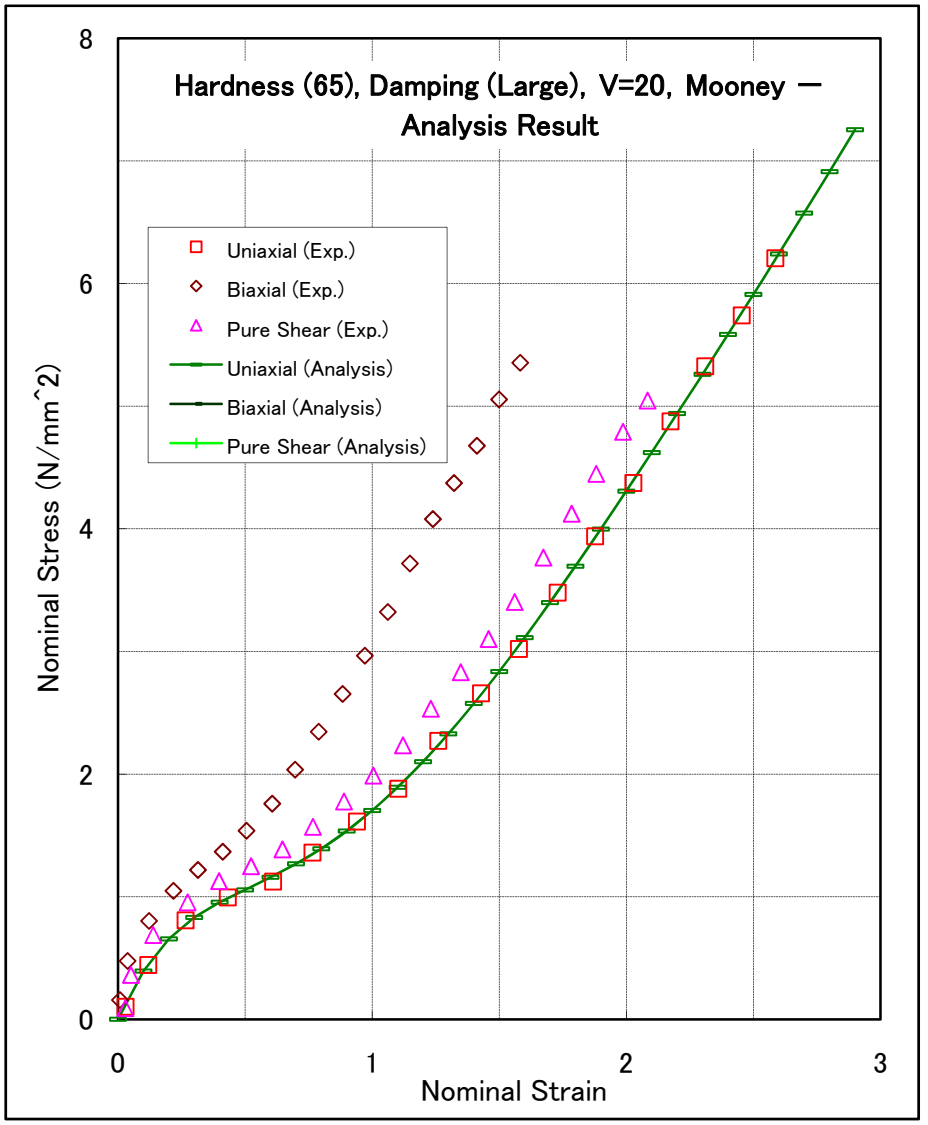
Japan Association for Nonlinear CAE

LS-DYNA

Input File: input1.dat (Uniaxial)
input2.dat (Biaxial)
input3.dat (Pure Shear)



Analysis model



Analysis result:
Stress-strain relationship

Identification for Odgen model: Hardness (65), Damping (Large), V=2

LS-DYNA

Ogden model

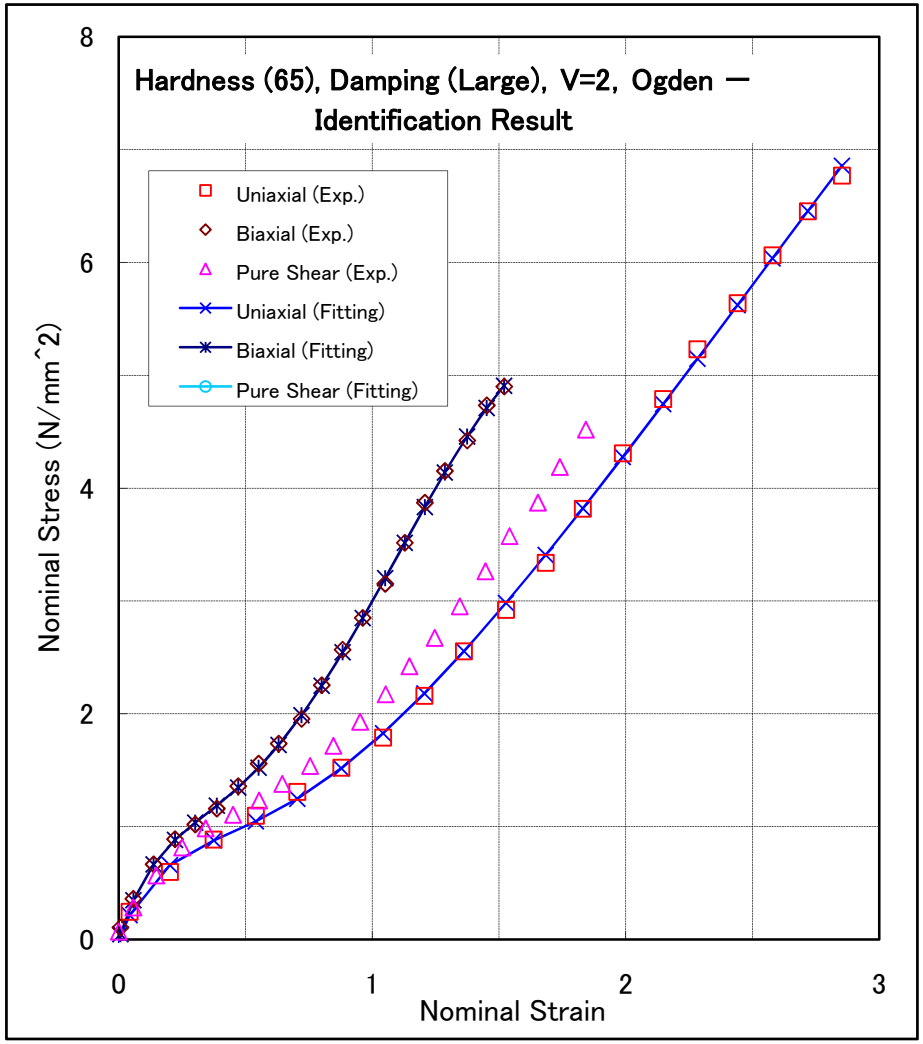
$$W = \sum_{i=1}^{3}\sum_{j=1}^{N}\frac{\mu_j}{\alpha_j}(\lambda_i^{\alpha_j} - 1)$$

Rate of Loading in Tension Test(s)

2 mm/s

Coefficient

Coefficient		
Order	μ	α
1	2.54E+01	1.23E+00
2	−1.49E+02	4.47E−01
3	7.68E+01	−1.02E−01
4	−6.05E+01	−7.74E−01



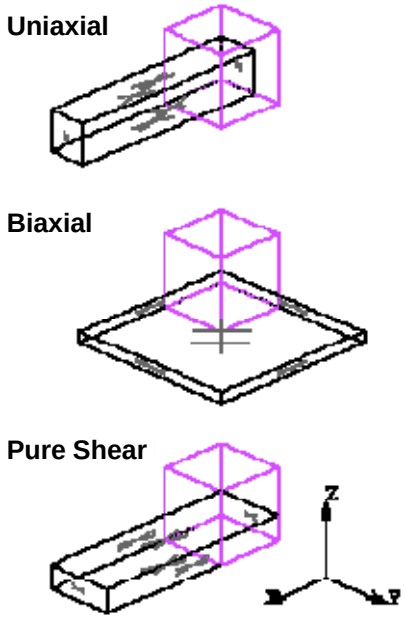
Identification result: Stress-strain relationship

Analysis with Odgen model: Hardness (65), Damping (Large), V=2

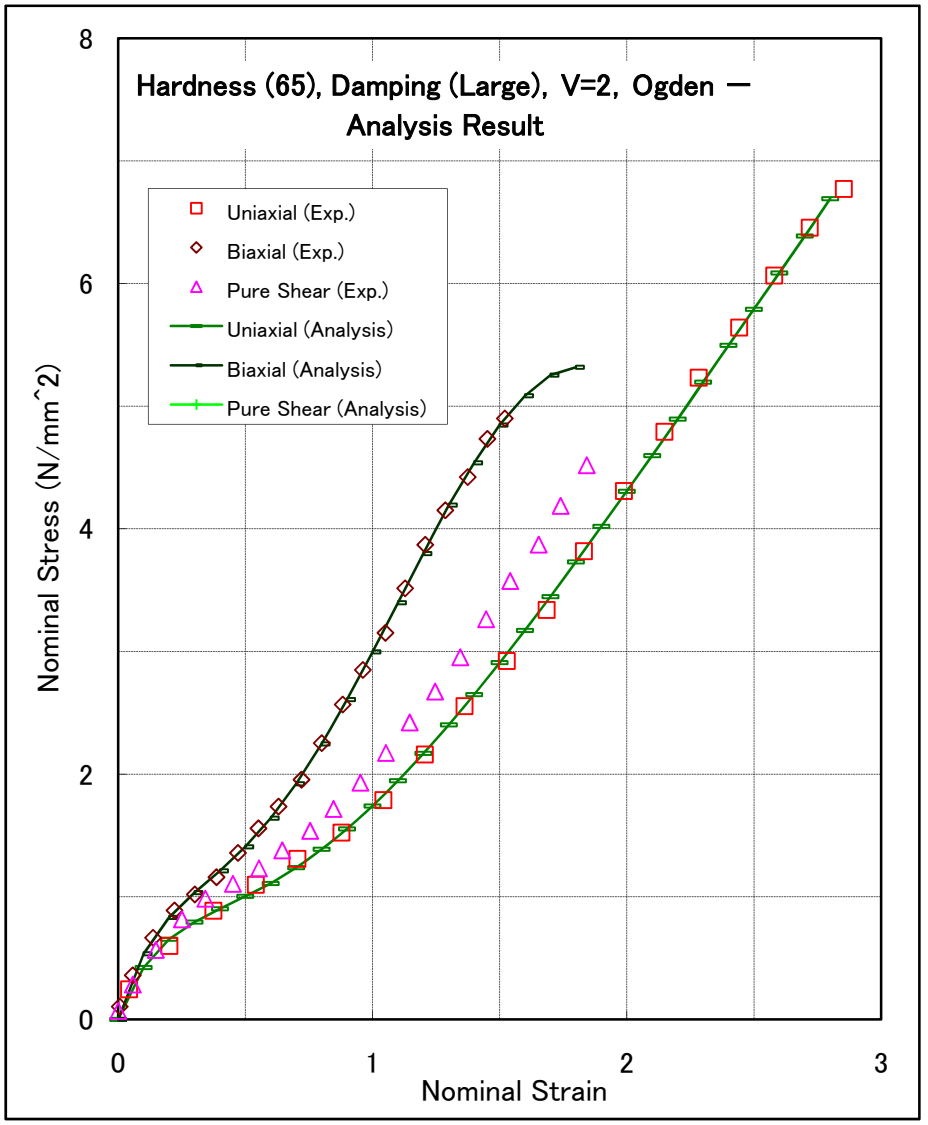
Japan Association for Nonlinear CAE

LS-DYNA

Input File: input1.dat (Uniaxial)
input2.dat (Biaxial)
input3.dat (Pure Shear)



Analysis model



Analysis result:
Stress-strain relationship

Identification for Odgen model: Hardness (65), Damping (Large), V=20

LS-DYNA

Ogden model

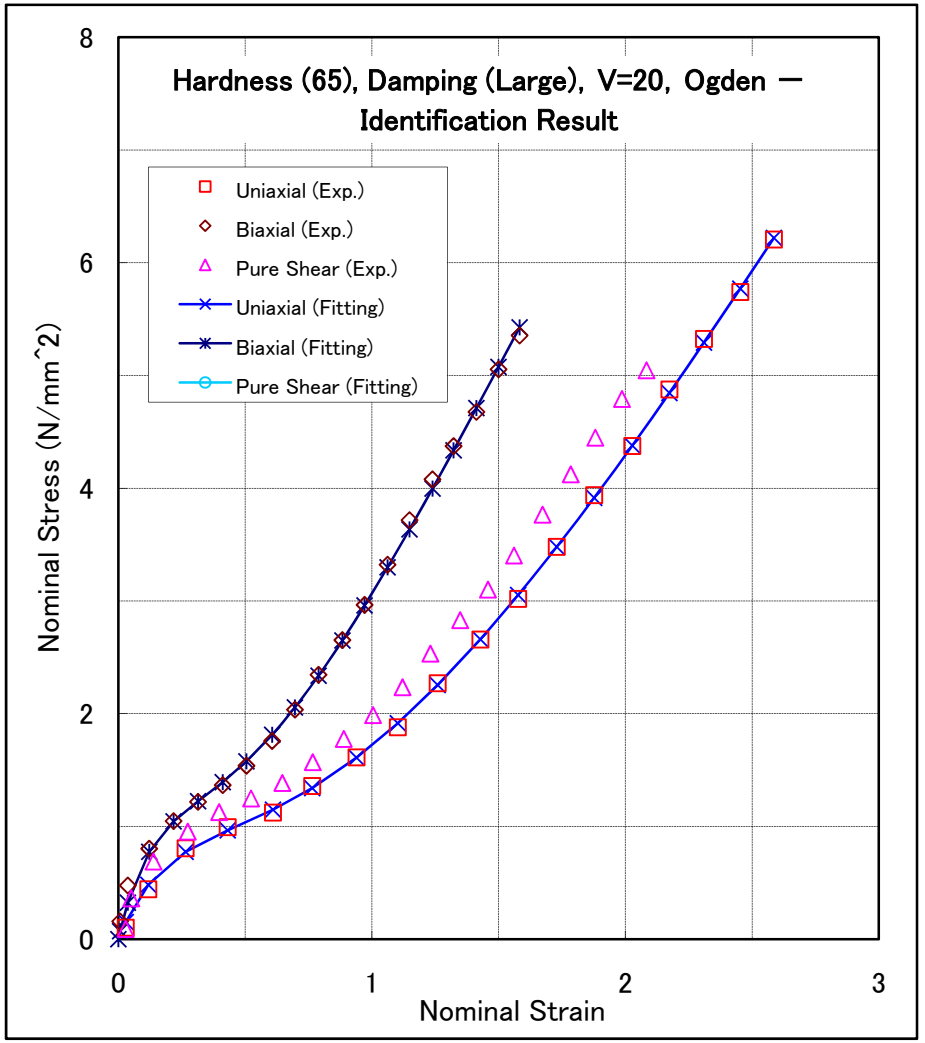
$$W = \sum_{i=1}^{3} \sum_{j=1}^{N} \frac{\mu_j}{\alpha_j} (\lambda_i^{\alpha_j} - 1)$$

Rate of Loading in Tension Test(s)

20 mm/s

Coefficient

Coefficient		
Order	μ	α
1	9.03E+00	1.69E+00
2	−5.60E+01	6.71E−01
3	−1.61E+01	−9.08E−01
4	−1.27E+01	−9.05E−01



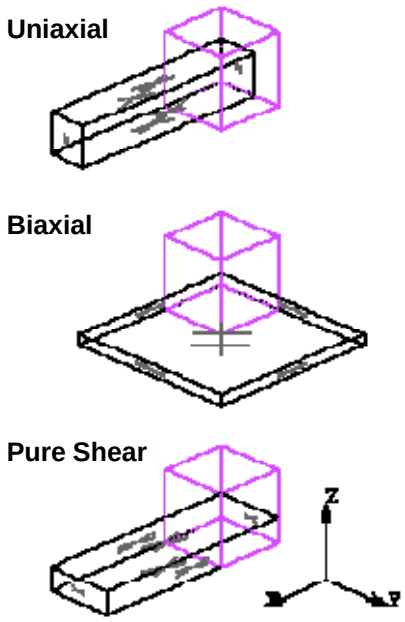
Identification result: Stress-strain relationship

Analysis with Odgen model: Hardness (65), Damping (Large), V=20

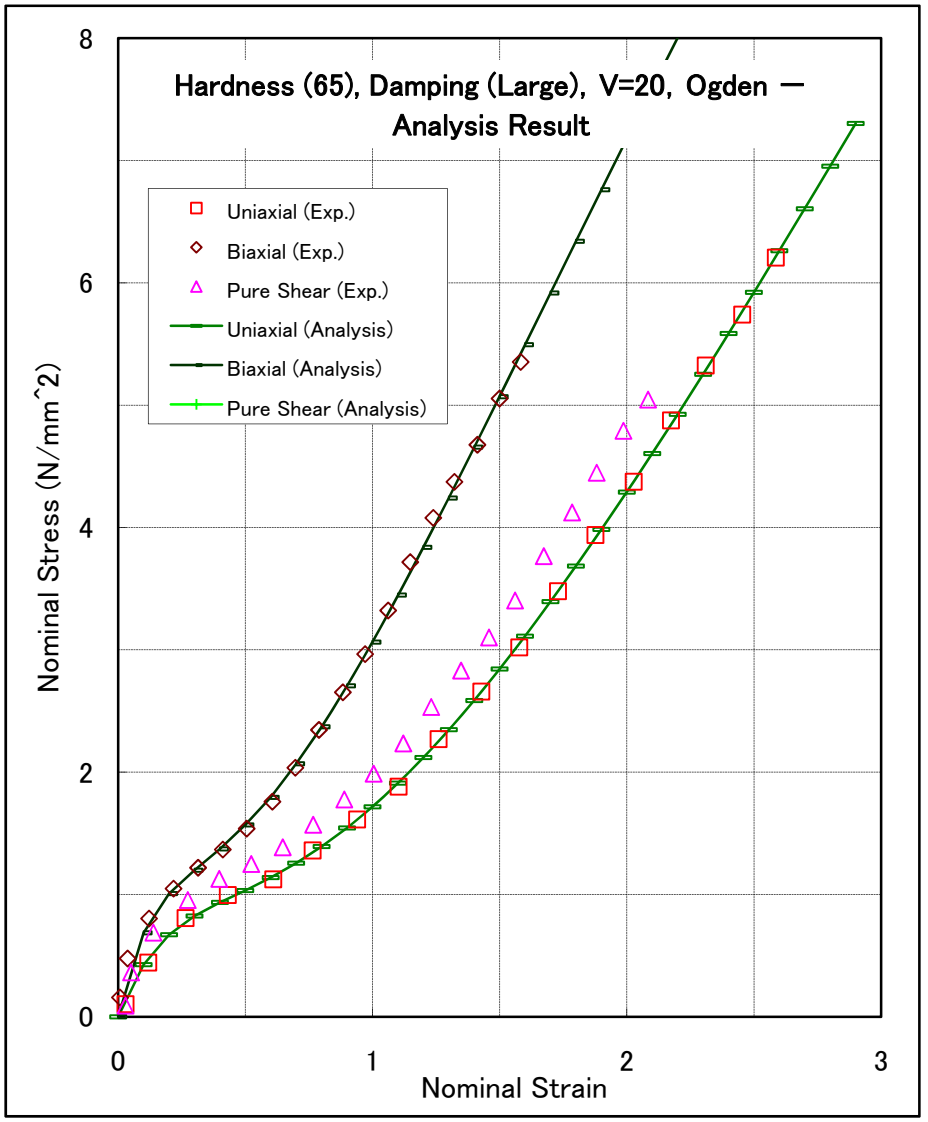
Japan Association for Nonlinear CAE

LS-DYNA

Input File: input1.dat (Uniaxial)
input2.dat (Biaxial)
input3.dat (Pure Shear)



Analysis model



Analysis result:
Stress-strain relationship