

Identification for Mooney model: Hardness (50), Damping (Large), V=2

LS-DYNA

Mooney model

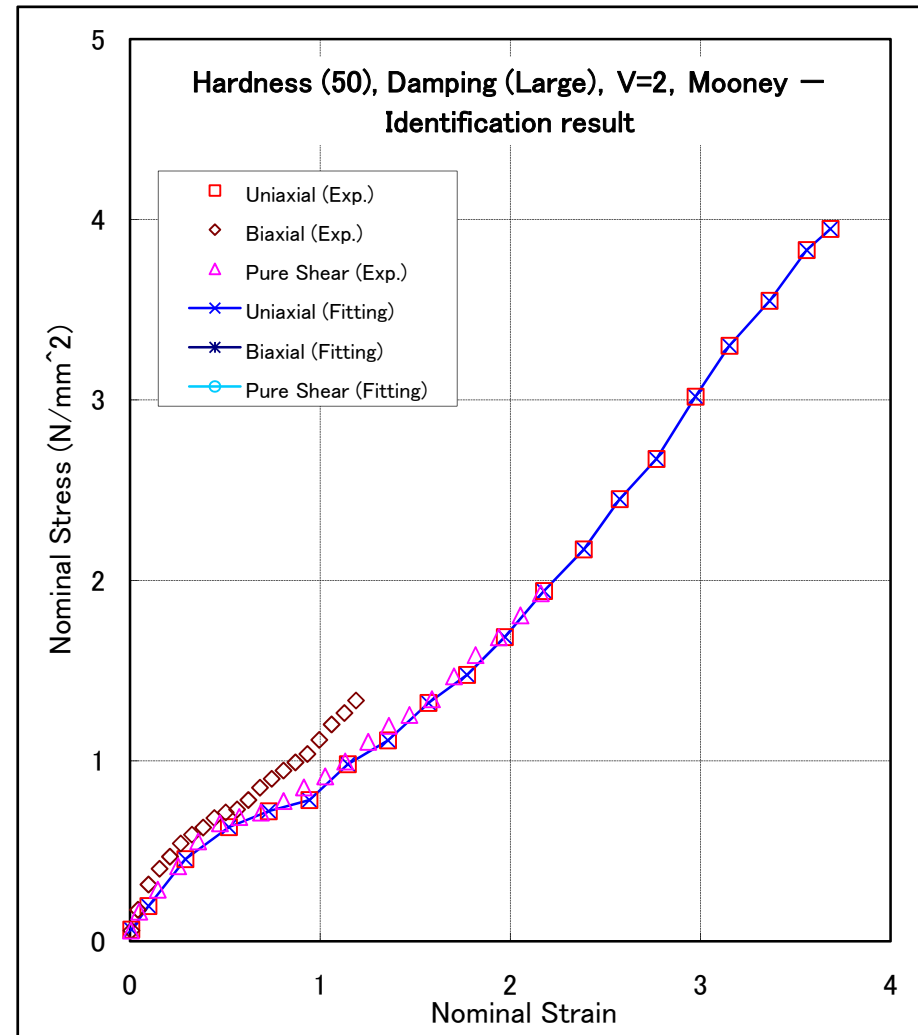
$$W = \sum_{m=1}^N \sum_{n=1}^N C_{mn} (J_1 - 3)^m (J_2 - 3)^n$$

Rate of Loading in Tension Test(s)

2 mm/s

Coefficient

Coefficient	
C10 (C1)	-0.4075
C01 (C2)	0.8856
C20 (C3)	0.03341
C11 (C4)	-0.08242
C02 (C5)	0.2159
C30 (C6)	-0.0003292
C21 (C7)	
C12 (C8)	
C03 (C9)	
C40 (C10)	



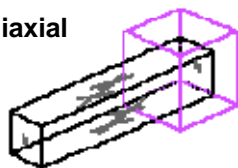
Identification result:
Stress-strain relationship

Analysis with Mooney model: Hardness (50), Damping (Large), V=2

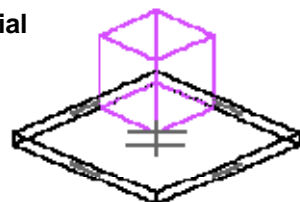
LS-DYNA

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

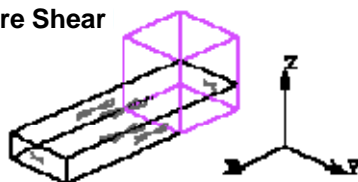
Uniaxial



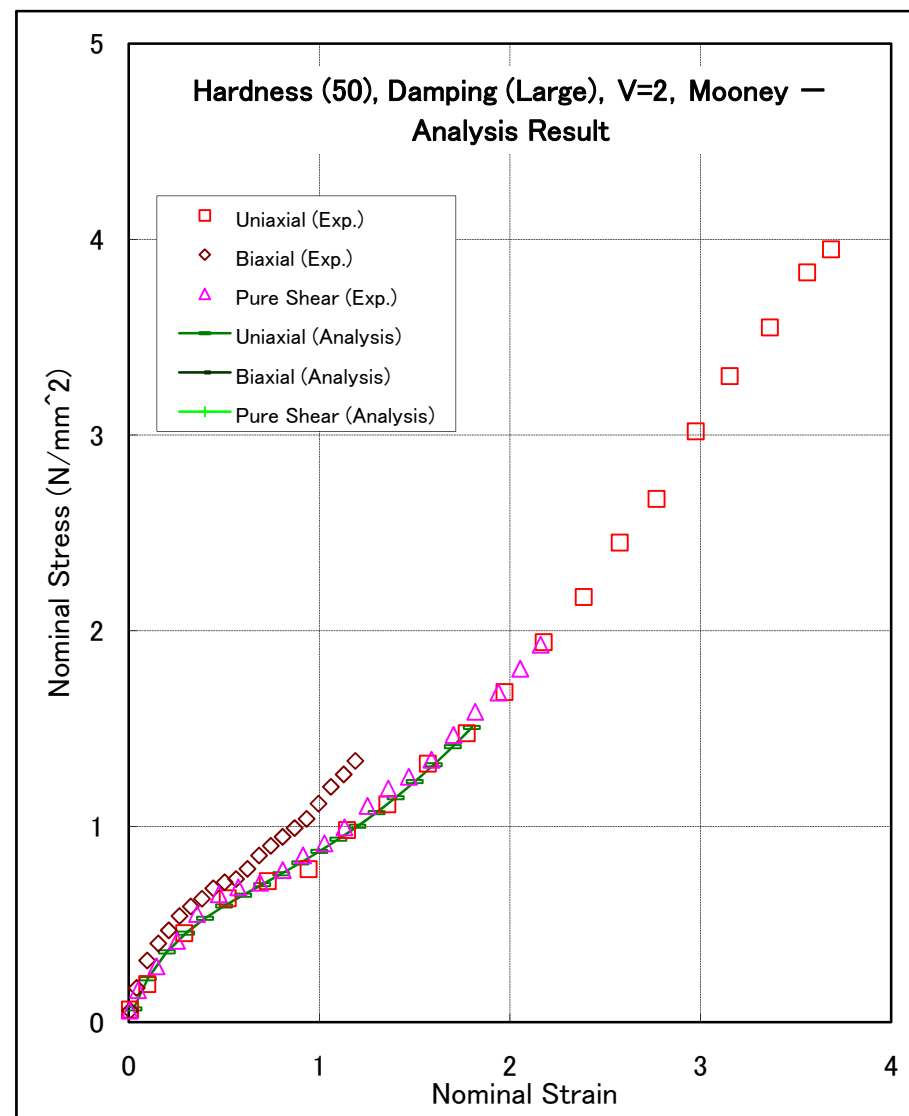
Biaxial



Pure Shear



Analysis model



**Analysis result:
Stress-strain relationship**

Identification for Mooney model: Hardness (50), Damping (Large), V=20

LS-DYNA

Mooney model

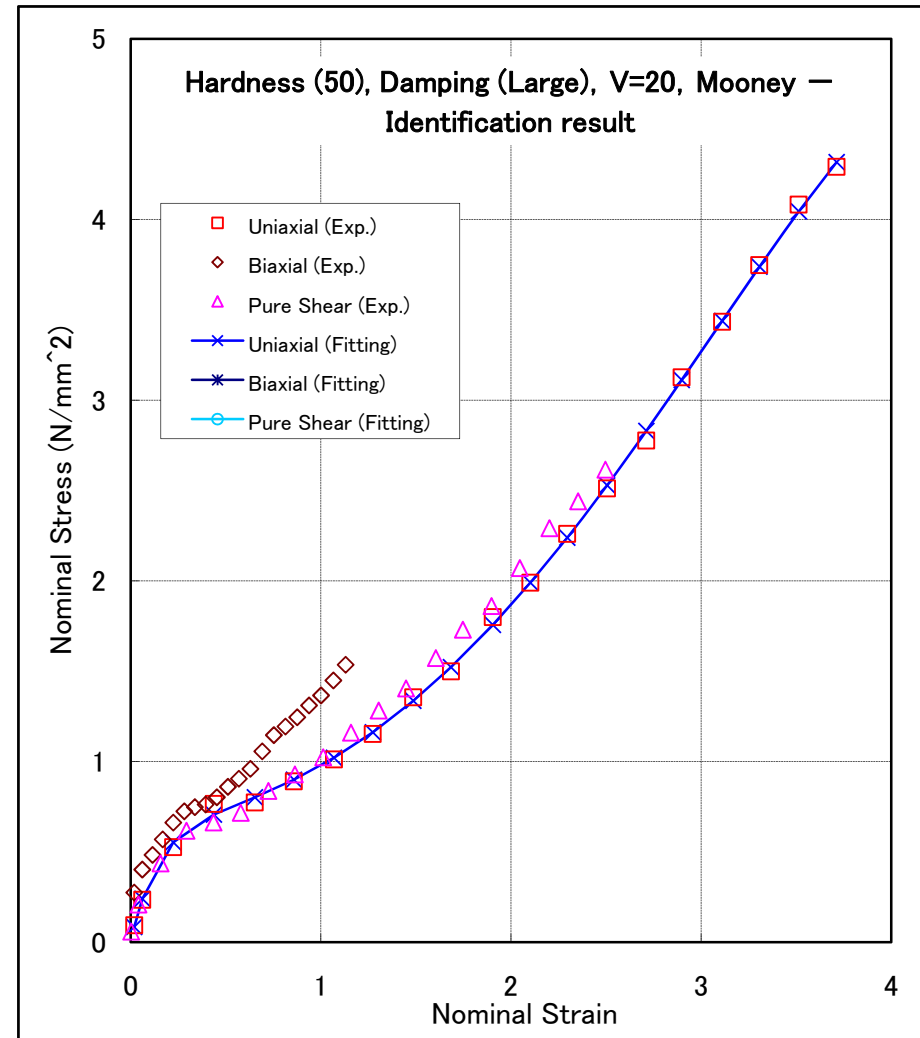
$$W = \sum_{m=1}^N \sum_{n=1}^N C_{mn} (J_1 - 3)^m (J_2 - 3)^n$$

Rate of Loading in Tension Test(s)

20 mm/s

Coefficient

係数	
C10 (C1)	-1.406
C01 (C2)	2.225
C20 (C3)	0.03389
C11 (C4)	-9.79E-02
C02 (C5)	0.5293
C30 (C6)	-0.0002992
C21 (C7)	
C12 (C8)	
C03 (C9)	
C40 (C10)	



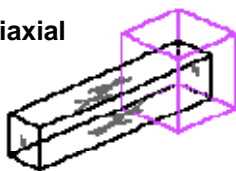
Identification result:
Stress-strain relationship

Analysis with Mooney model: Hardness (50), Damping (Large), V=20

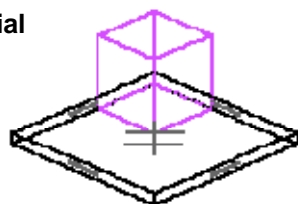
LS-DYNA

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

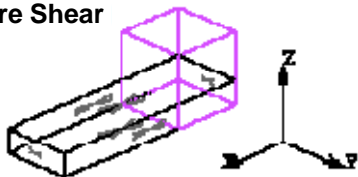
Uniaxial



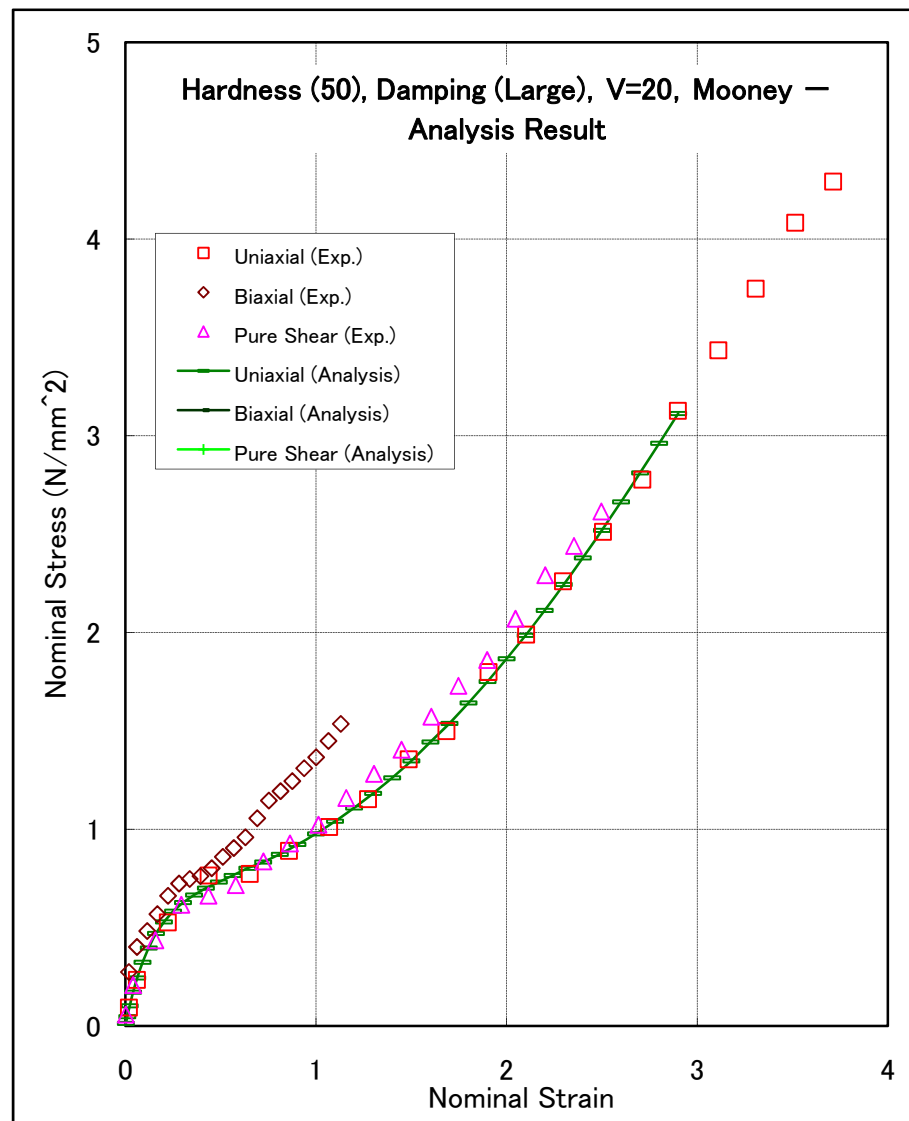
Biaxial



Pure Shear



Analysis model



Analysis result:
Stress-strain relationship

Identification for Ogden model: Hardness (50), Damping (Large), V=2

LS-DYNA

Ogden model

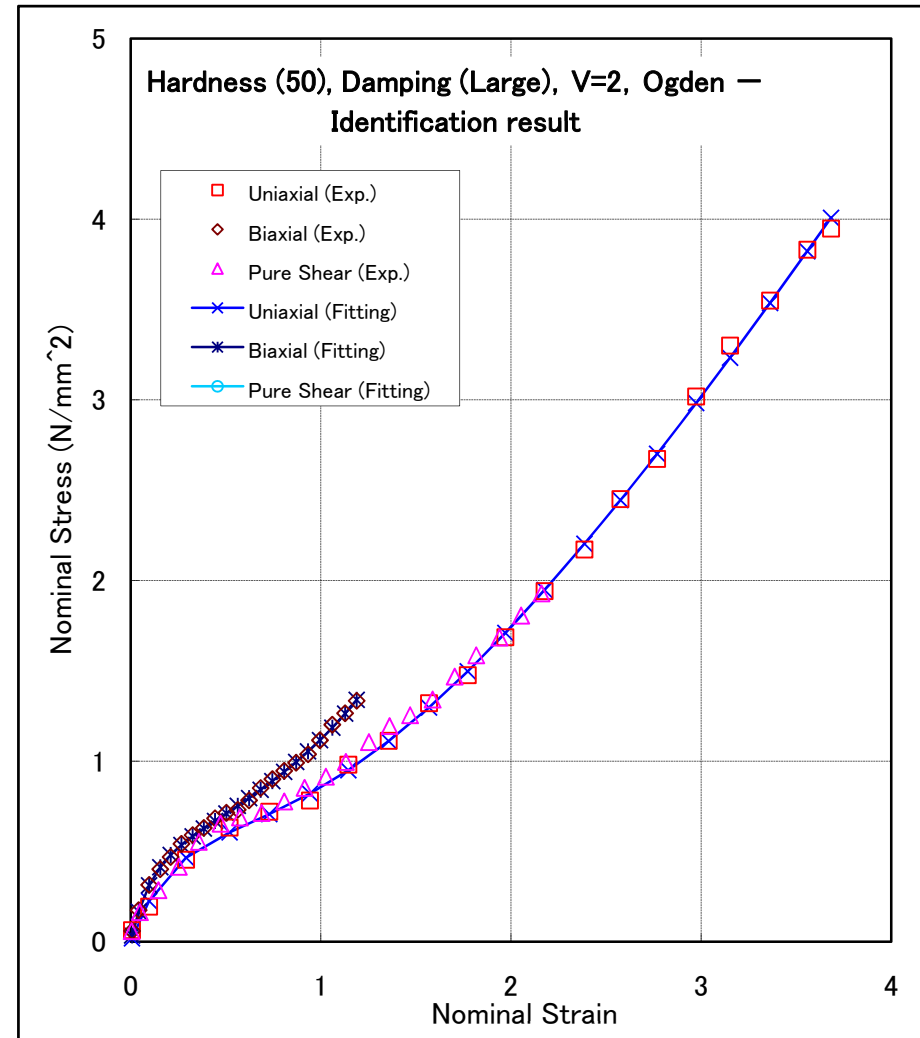
$$W = \sum_{i=1}^3 \sum_{j=1}^N \frac{\mu_j}{\alpha_j} (\lambda_i^{\alpha_j} - 1)$$

Rate of Loading in Tension Test(s)

2 mm/s

Coefficient

Coefficient		
Order	μ	α
1	5.113	1.6493
2	-31.475	0.7162
3	-16.831	-0.73575
4	-6.4099	-0.71703

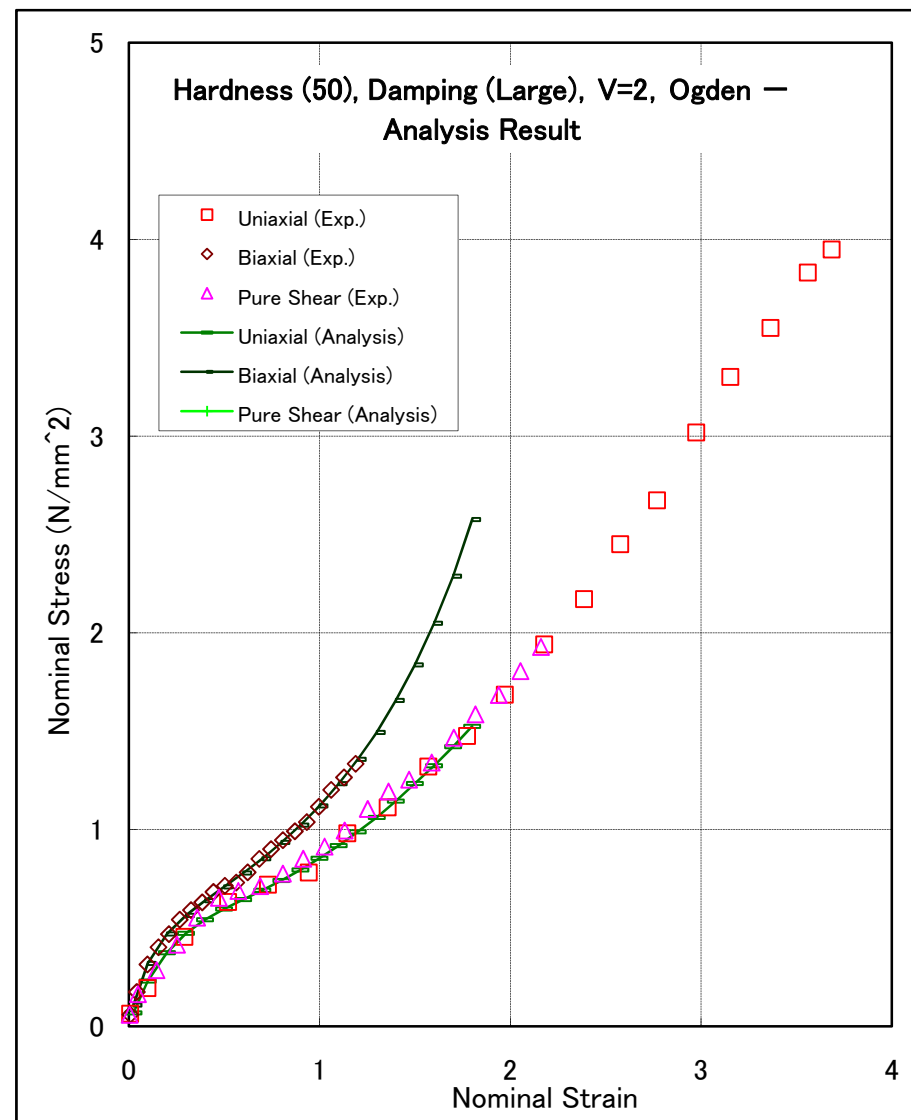
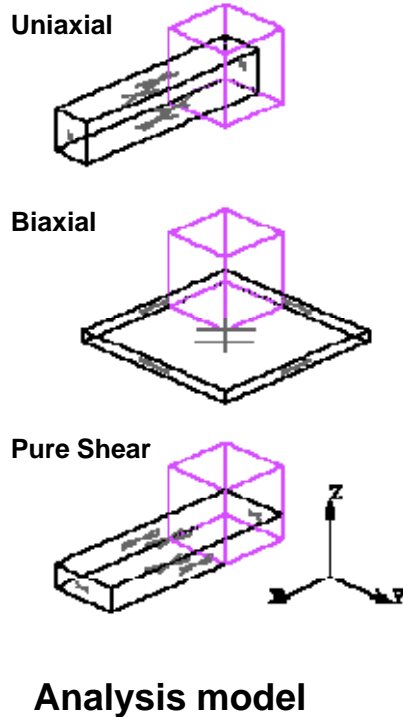


Identification result:
Stress-strain relationship

Analysis with Ogden model: Hardness (50), Damping (Large), $V=2$

LS-DYNA

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



Analysis result:
Stress-strain relationship

Identification for Ogden model: Hardness (50), Damping (Large), V=20

LS-DYNA

Ogden model

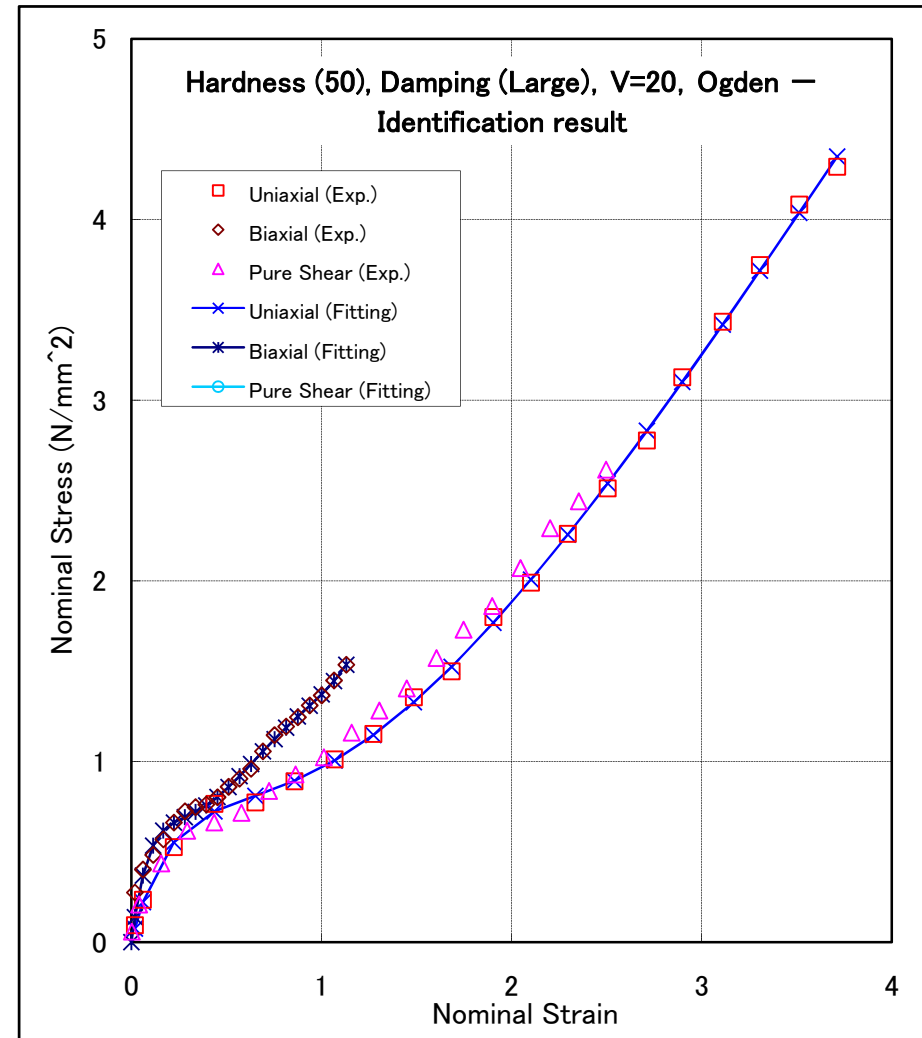
$$W = \sum_{i=1}^3 \sum_{j=1}^N \frac{\mu_j}{\alpha_j} (\lambda_i^{\alpha_j} - 1)$$

Rate of Loading in Tension Test(s)

20 mm/s

Coefficient

Coefficient		
Order	μ	α
1	0.0056083	9.0671
2	-1.1582	4.6345
3	5.515	3.0068
4	-20.765	0.40766



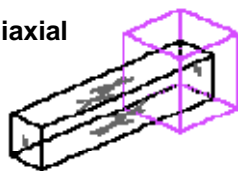
Identification result:
Stress-strain relationship

Analysis with Ogden model: Hardness (50), Damping (Large), V=20

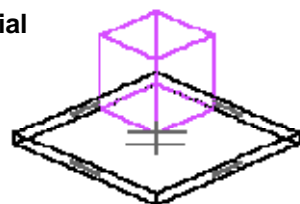
LS-DYNA

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

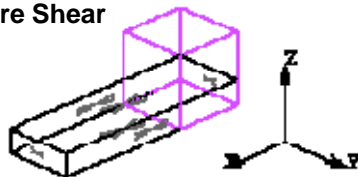
Uniaxial



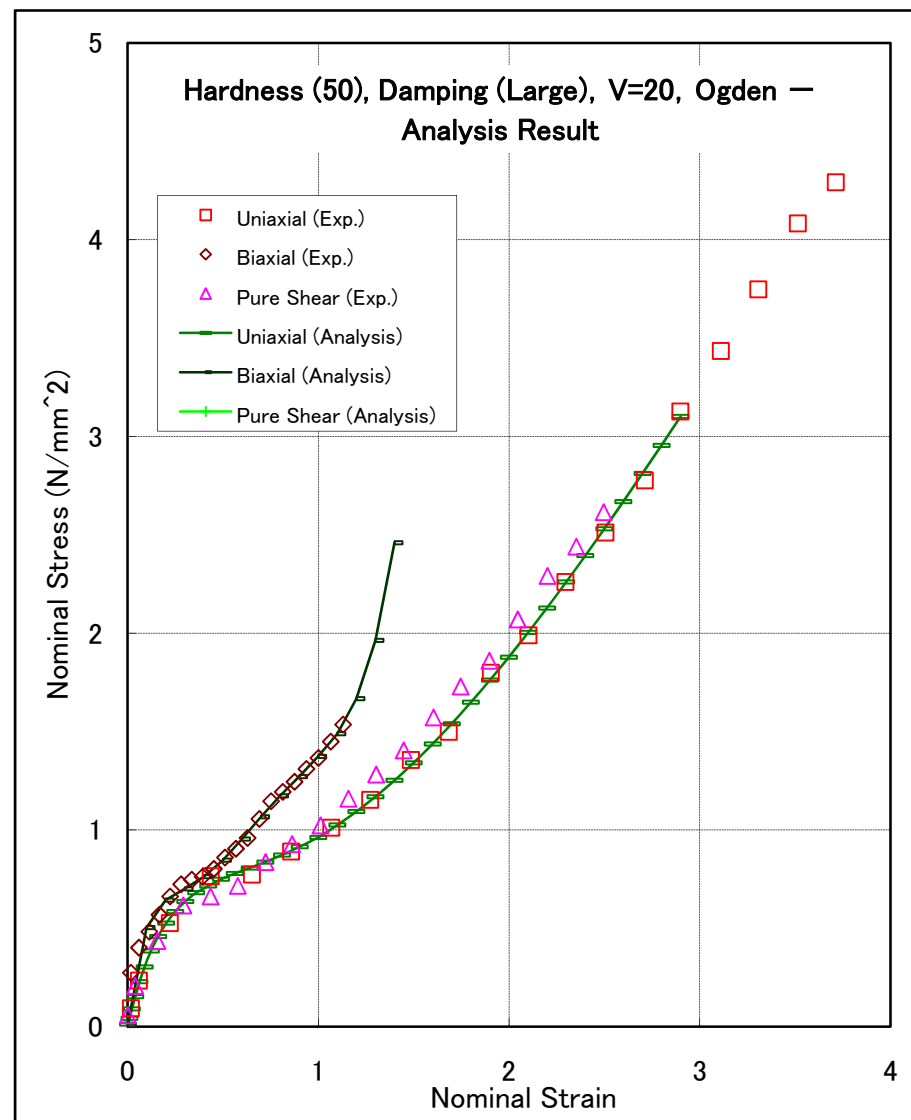
Biaxial



Pure Shear



Analysis model



Analysis result:
Stress-strain relationship