

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

ABAQUS

Mooney model

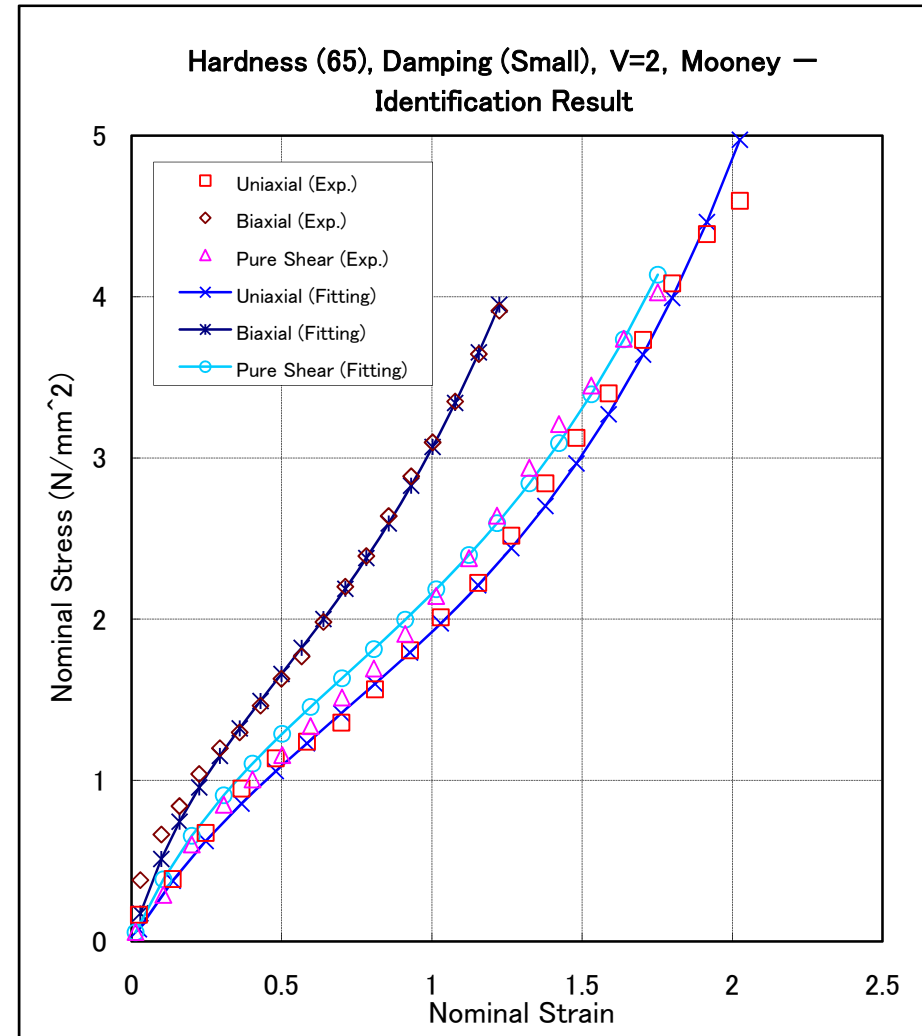
$$W = \sum_{m=1}^N \sum_{n=1}^N C_{mn} (I_1 - 3)^m (I_2 - 3)^n$$

Rate of Loading in Tension Test(s)

2 mm/s

Coefficient

Coefficient	
C10 (C1)	0.473305
C01 (C2)	0.0503144
C20 (C3)	0.00919134
C11 (C4)	-0.00396973
C02 (C5)	
C30 (C6)	0.00185945
C21 (C7)	
C12 (C8)	
C03 (C9)	
C40 (C10)	



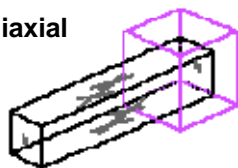
Identification result:
Stress-strain relationship

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

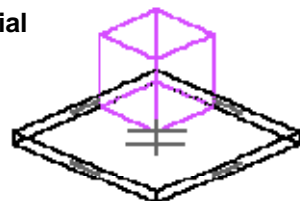
ABAQUS

Input File: ys_nsl_v2_abaqus_m.inp

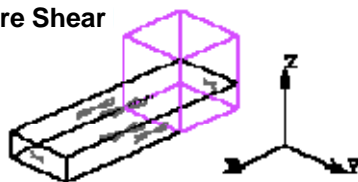
Uniaxial



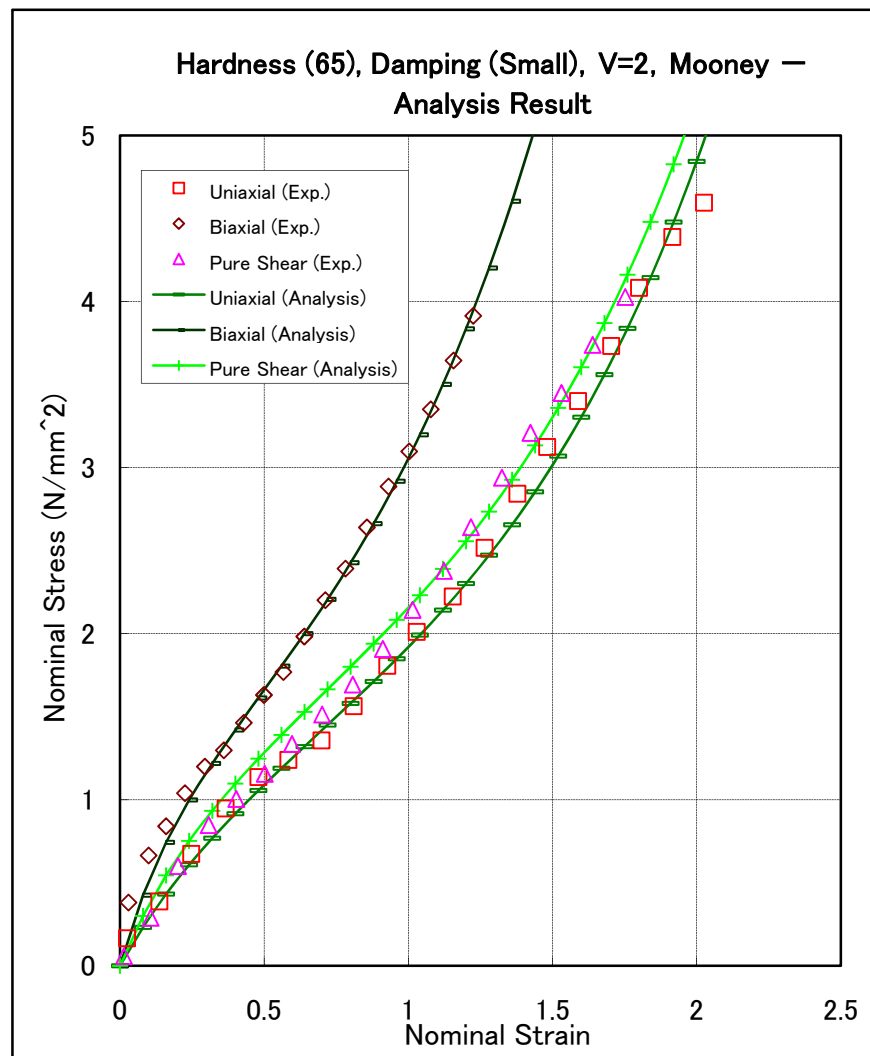
Biaxial



Pure Shear



Analysis model



Analysis result:
Stress-strain relationship

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

ABAQUS

Mooney model

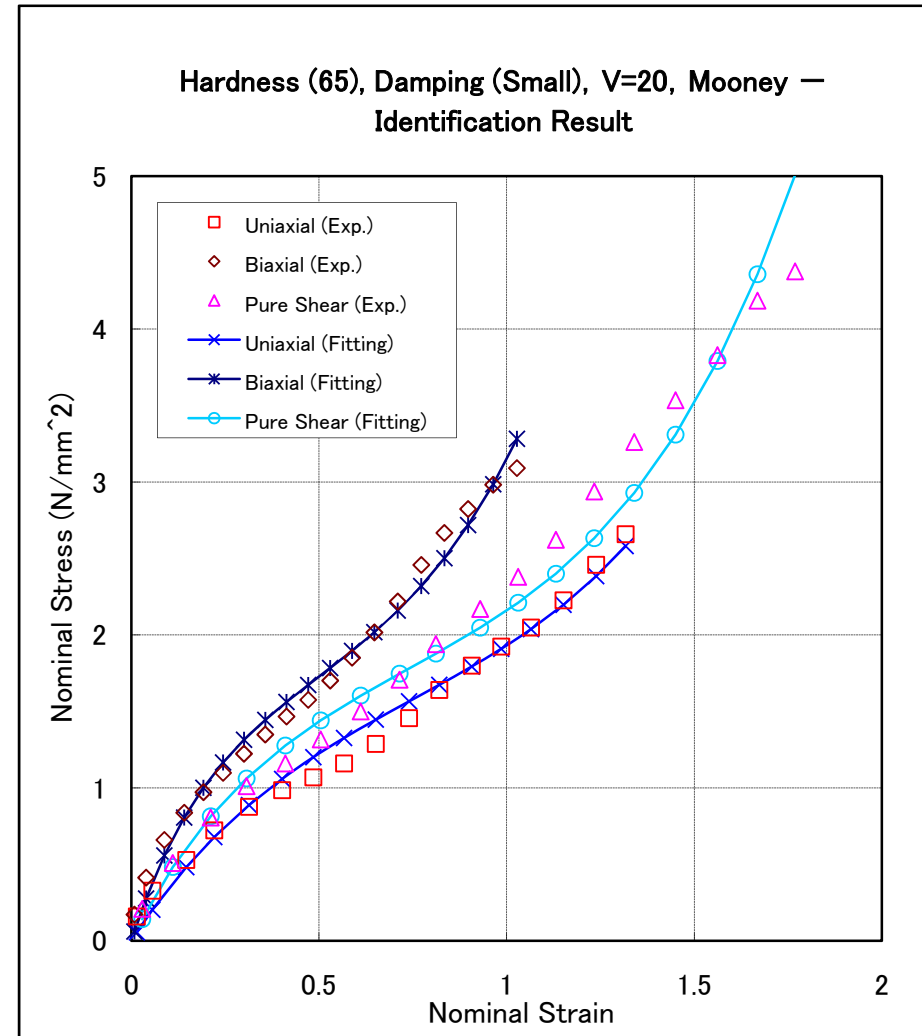
$$W = \sum_{m=1}^N \sum_{n=1}^N C_{mn} (I_1 - 3)^m (I_2 - 3)^n$$

Rate of Loading in Tension Test(s)

20 mm/s

Coefficient

Coefficient	
C10 (C1)	0.564548
C01 (C2)	0.0739438
C20 (C3)	-0.0286611
C11 (C4)	-0.00958585
C02 (C5)	
C30 (C6)	0.00718750
C21 (C7)	
C12 (C8)	
C03 (C9)	
C40 (C10)	



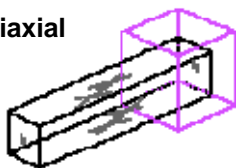
Identification result:
Stress-strain relationship

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

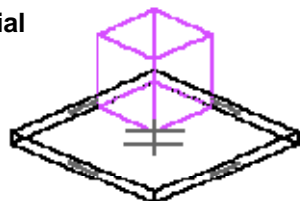
ABAQUS

Input File: ys_nsl_v20_abaqus_m.inp

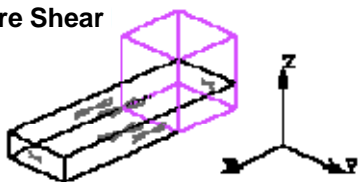
Uniaxial



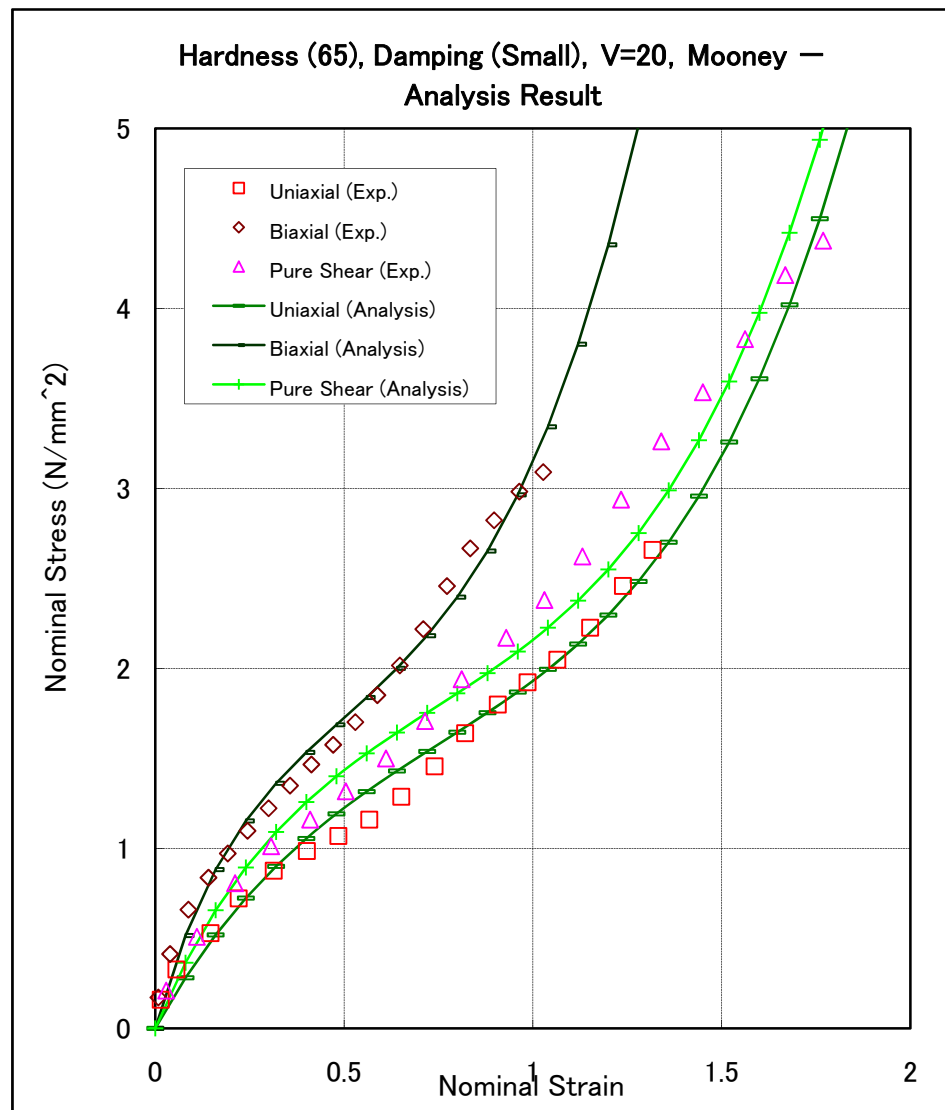
Biaxial



Pure Shear



Analysis model



Analysis result:
Stress-strain relationship

Identification for Ogden model: Hardness (65), Damping (Small), V=2

ABAQUS

Ogden model

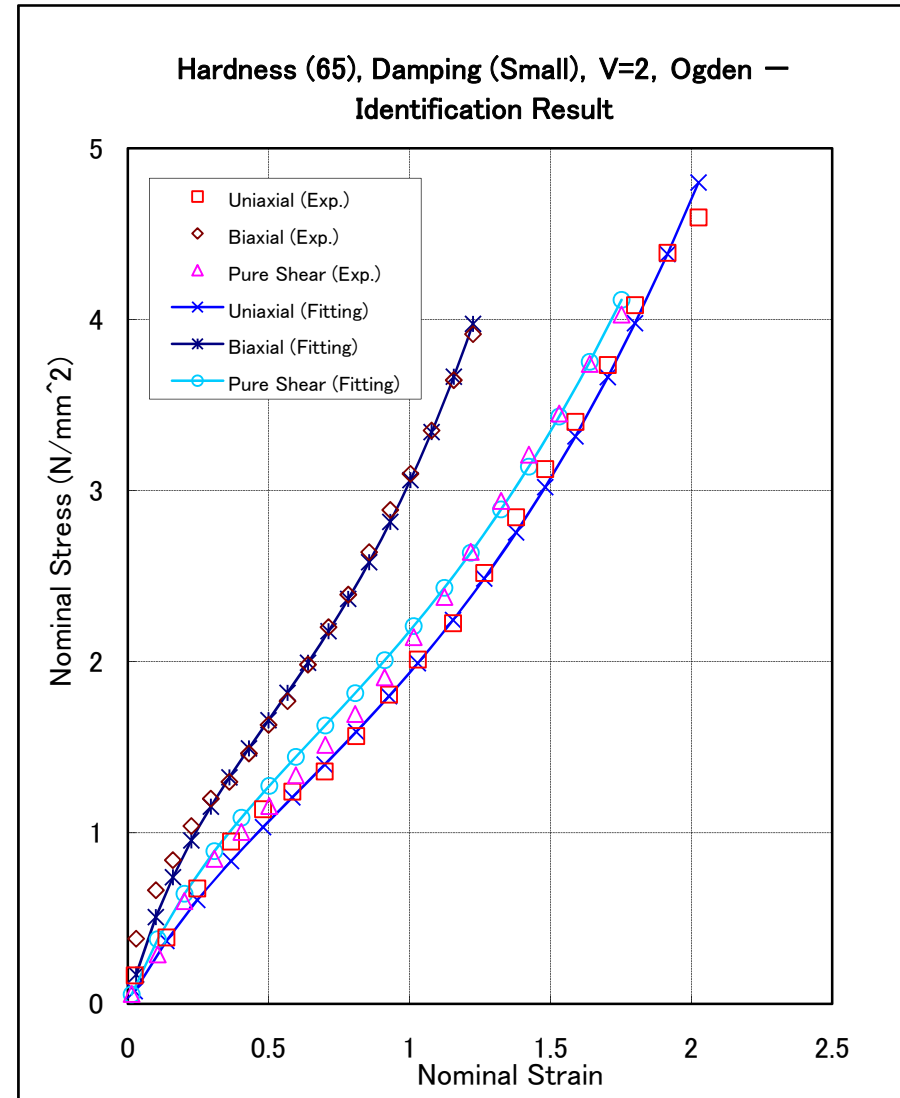
$$W = \sum_{n=1}^N \frac{2\mu_n}{\alpha_n^2} [(\lambda_1^{\alpha_n} + \lambda_2^{\alpha_n} + \lambda_3^{\alpha_n}) - 3]$$

Rate of Loading in Tension Test(s)

2 mm/s

Coefficient

Coefficient		
Order	μ	α
1	0.782475	0.906942
2	0.204412	4.26004
3	0.0419495	-2.84426
4	0.0000495805	3.50930



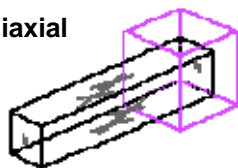
Identification result:
Stress-strain relationship

Analysis with Ogden model: Hardness (65), Damping (Small), V=2

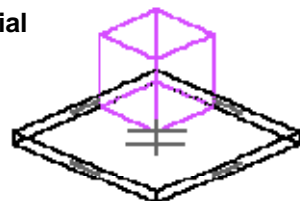
ABAQUS

Input File: ys_nsl_v2_abaqus_o.inp

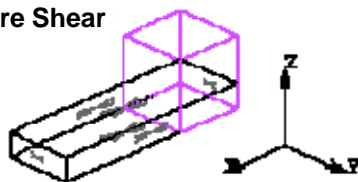
Uniaxial



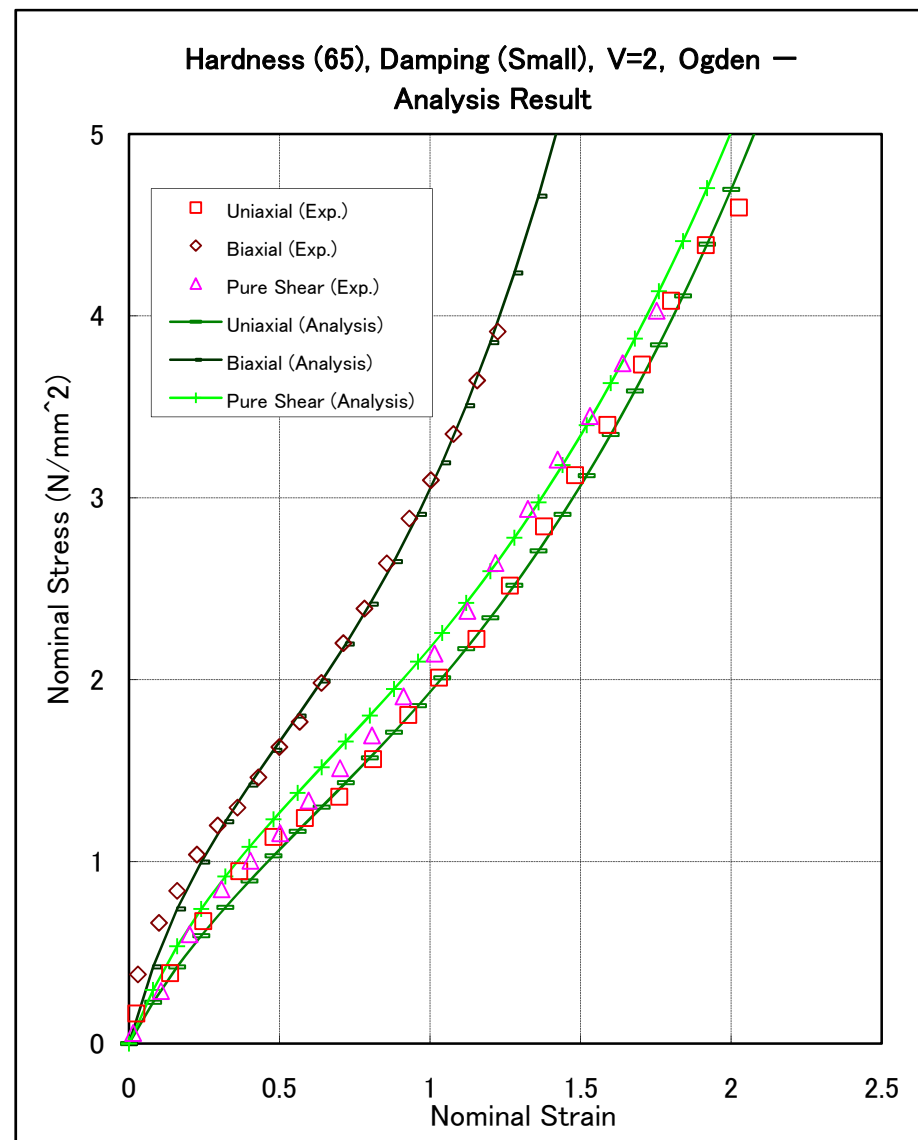
Biaxial



Pure Shear



Analysis model



Analysis result:
Stress-strain relationship

Identification for Ogden model: Hardness (65), Damping (Small), V=20

ABAQUS

Ogden model

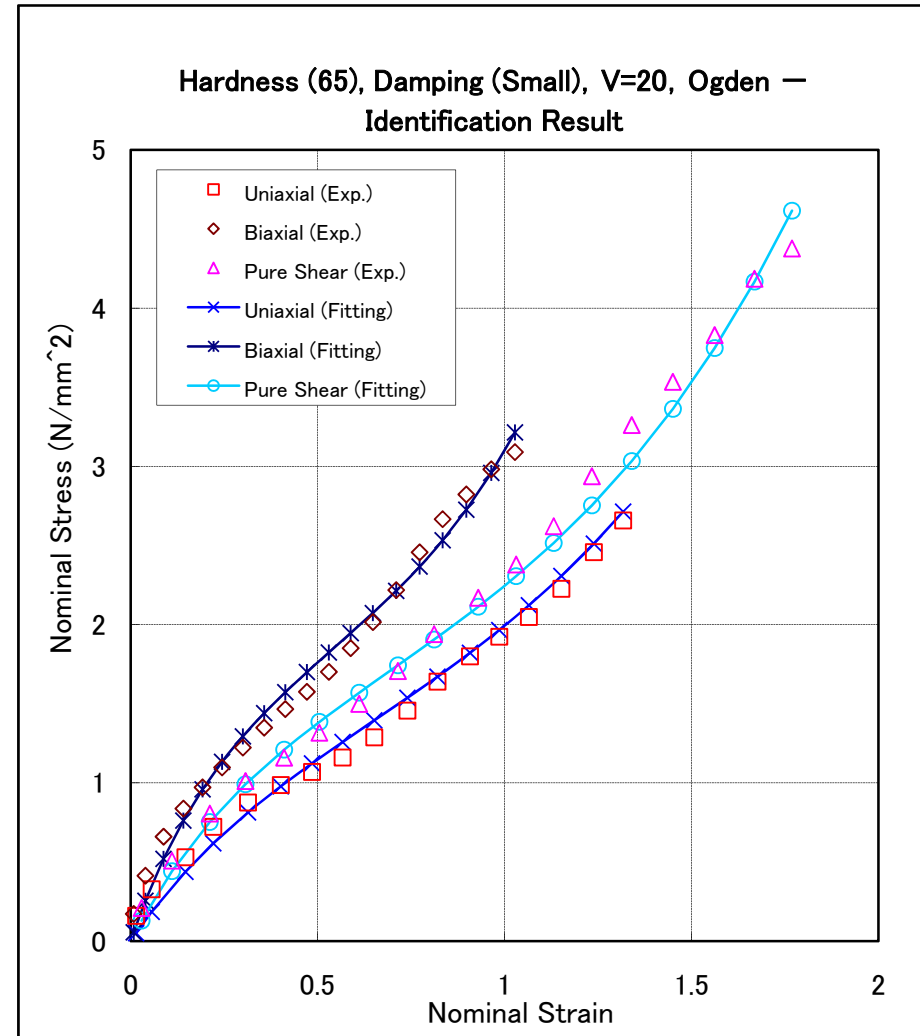
$$W = \sum_{n=1}^N \frac{2\mu_n}{\alpha_n^2} [(\lambda_1^{\alpha_n} + \lambda_2^{\alpha_n} + \lambda_3^{\alpha_n}) - 3]$$

Rate of Loading in Tension Test(s)

20 mm/s

Coefficient

Coefficient		
Order	μ	α
1	0.496313	0.990861
2	0.0623881	5.69705
3	0.00643767	-4.33783
4	0.602823	1.00057



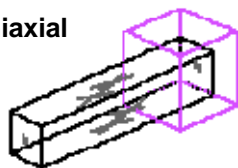
Identification result:
Stress-strain relationship

Analysis with Ogden model: Hardness (65), Damping (Small), V=20

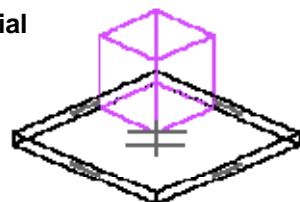
ABAQUS

Input File: ys_nsl_v20_abaqus_o.inp

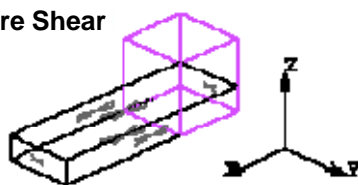
Uniaxial



Biaxial

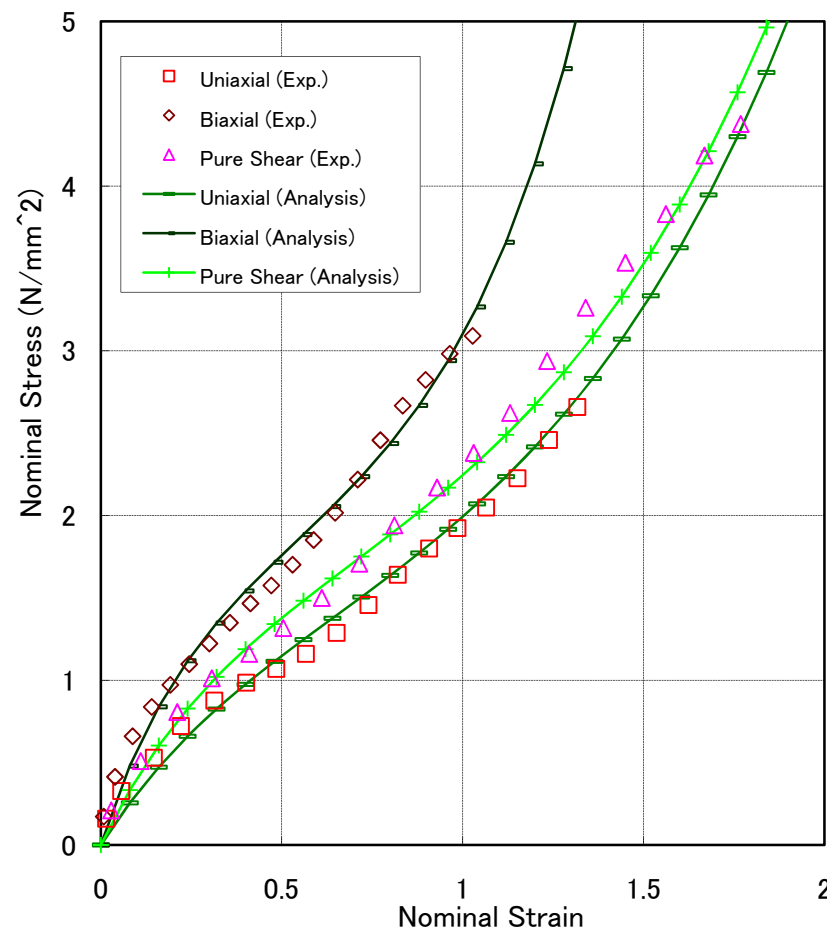


Pure Shear



Analysis model

Hardness (65), Damping (Small), V=20, Ogden —
Analysis Result



Analysis result:
Stress-strain relationship