

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

MSC.Marc

Mooney model

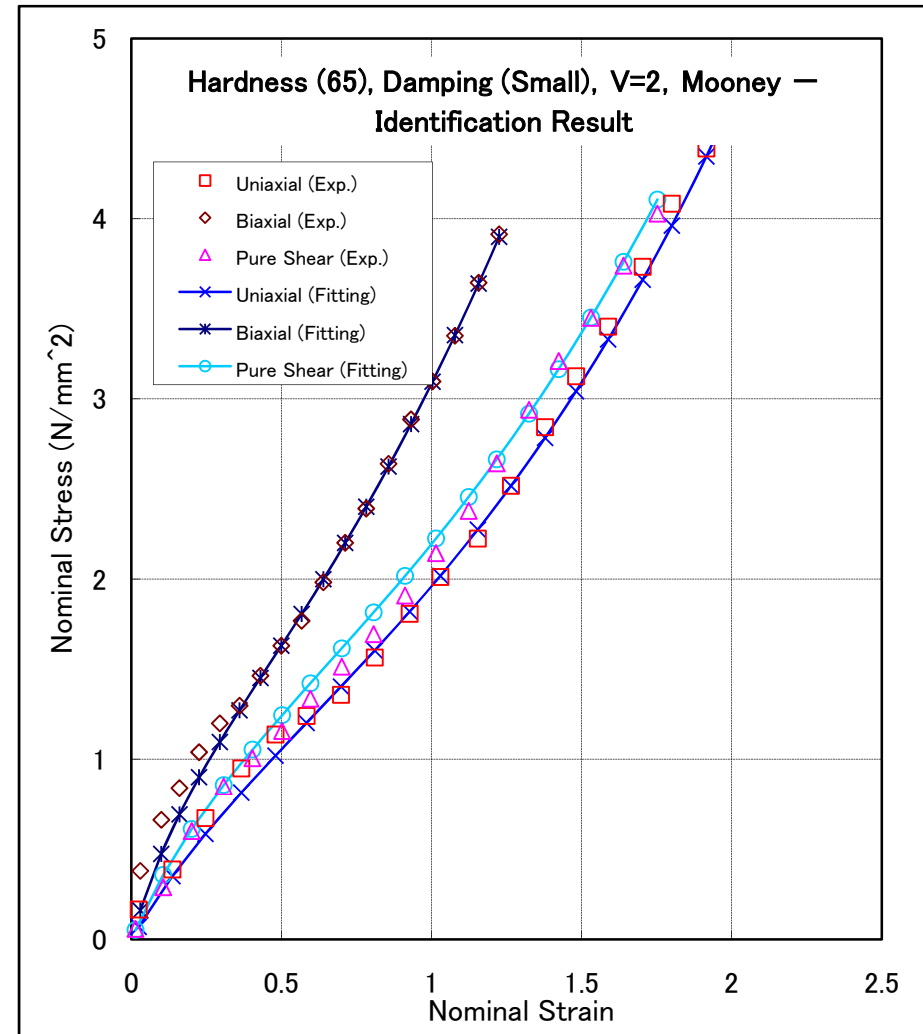
$$W = \sum_{m=1}^N \sum_{n=1}^N C_{mn} (I_1 - 3)^m (I_2 - 3)^n$$

Rate of Loading in Tension Test(s)

2 mm/s

Coefficient

Coefficient	
C10 (C1)	0.451211
C01 (C2)	0.0342842
C20 (C3)	0.0229027
C11 (C4)	-0.00186556
C02 (C5)	—
C30 (C6)	0.00034439



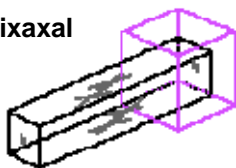
Identification result:  
Stress-strain relationship

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

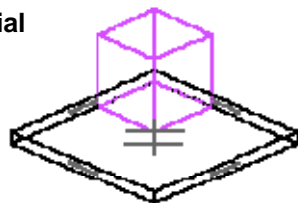
MSC.Marc

Input File: ys\_nsl\_v2\_marc\_m.dat

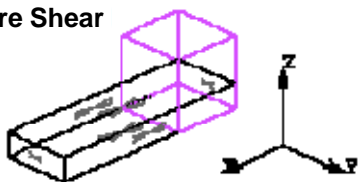
Uniaxial



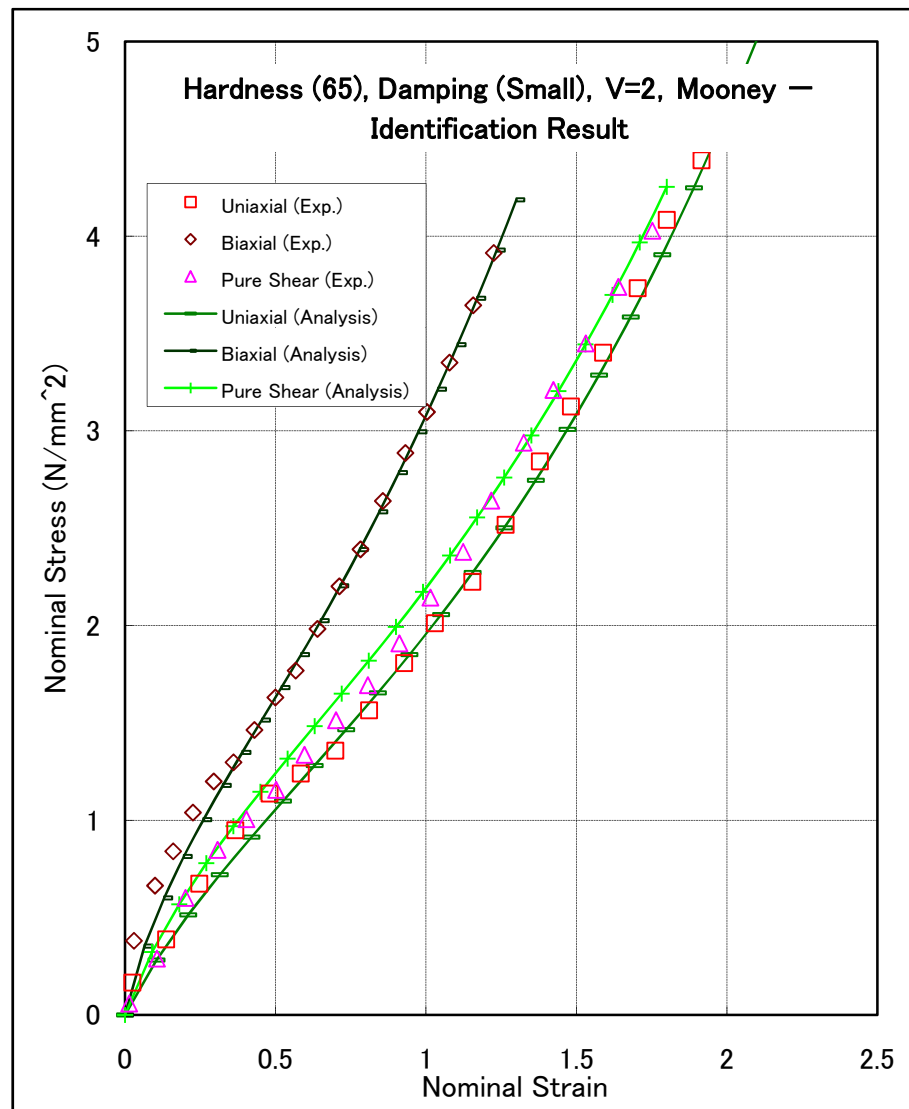
Biaxial



Pure Shear



Analysis model



Analysis result:  
Stress-strain relationship

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

MSC.Marc

Mooney model

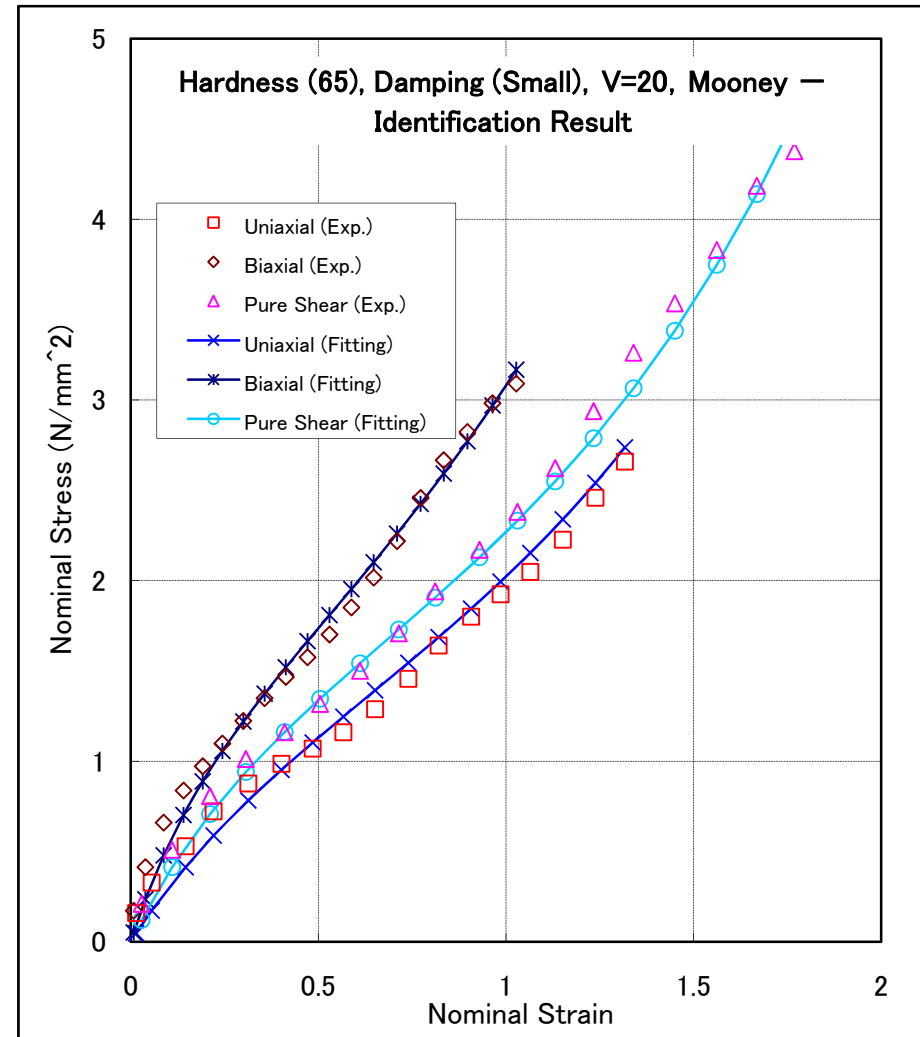
$$W = \sum_{m=1}^N \sum_{n=1}^N C_{mn} (I_1 - 3)^m (I_2 - 3)^n$$

Rate of Loading in Tension Test(s)

20 mm/s

Coefficient

Coefficient	
C10 (C1)	0.482856
C01 (C2)	0.0601383
C20 (C3)	0.0137408
C11 (C4)	-0.00734536
C02 (C5)	—
C30 (C6)	0.00217826

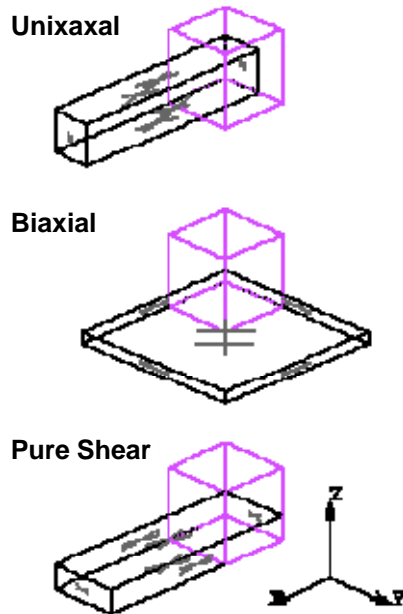


Identification result:  
Stress-strain relationship

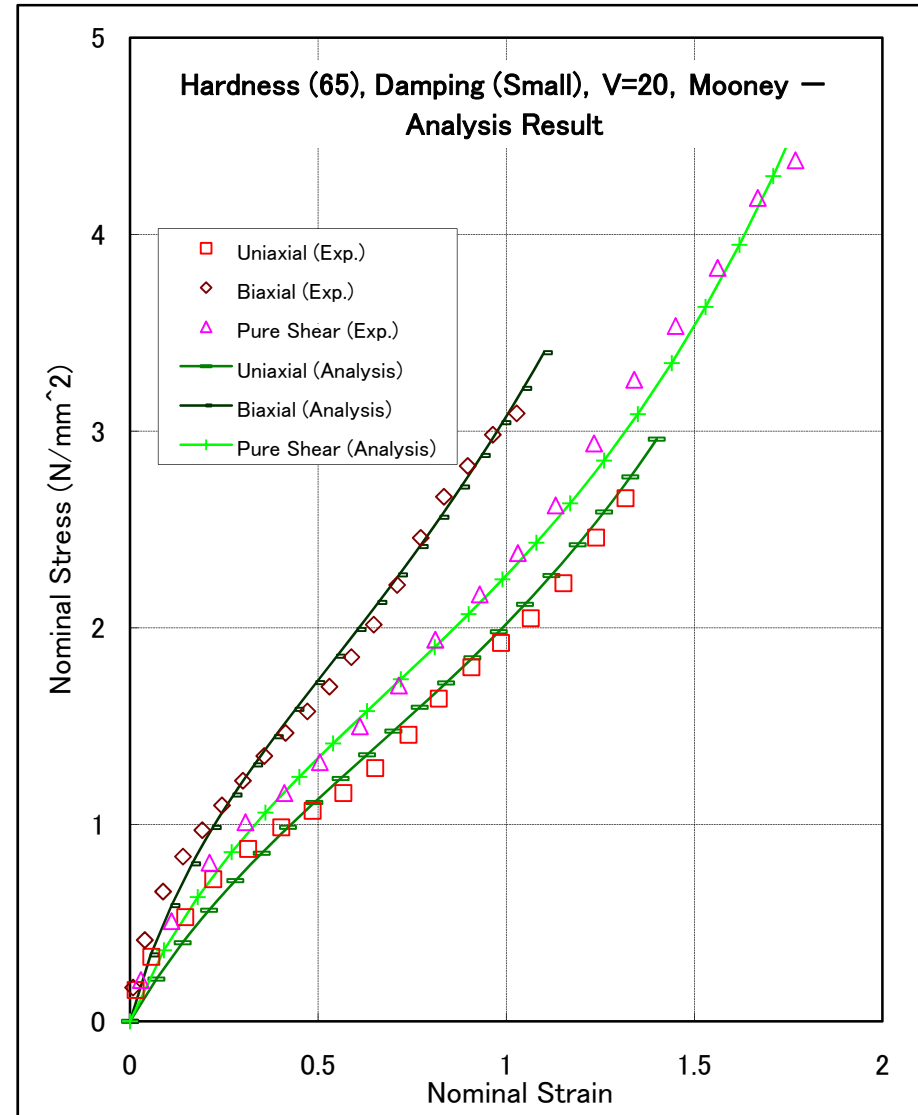
# Analysis with Mooney model: Hardness (65), Damping (Small), V=20

MSC.Marc

Input File: ys\_nsl\_v20\_marc\_m.dat



Analysis model



Analysis result:  
Stress-strain relationship

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

MSC.Marc

Ogden model

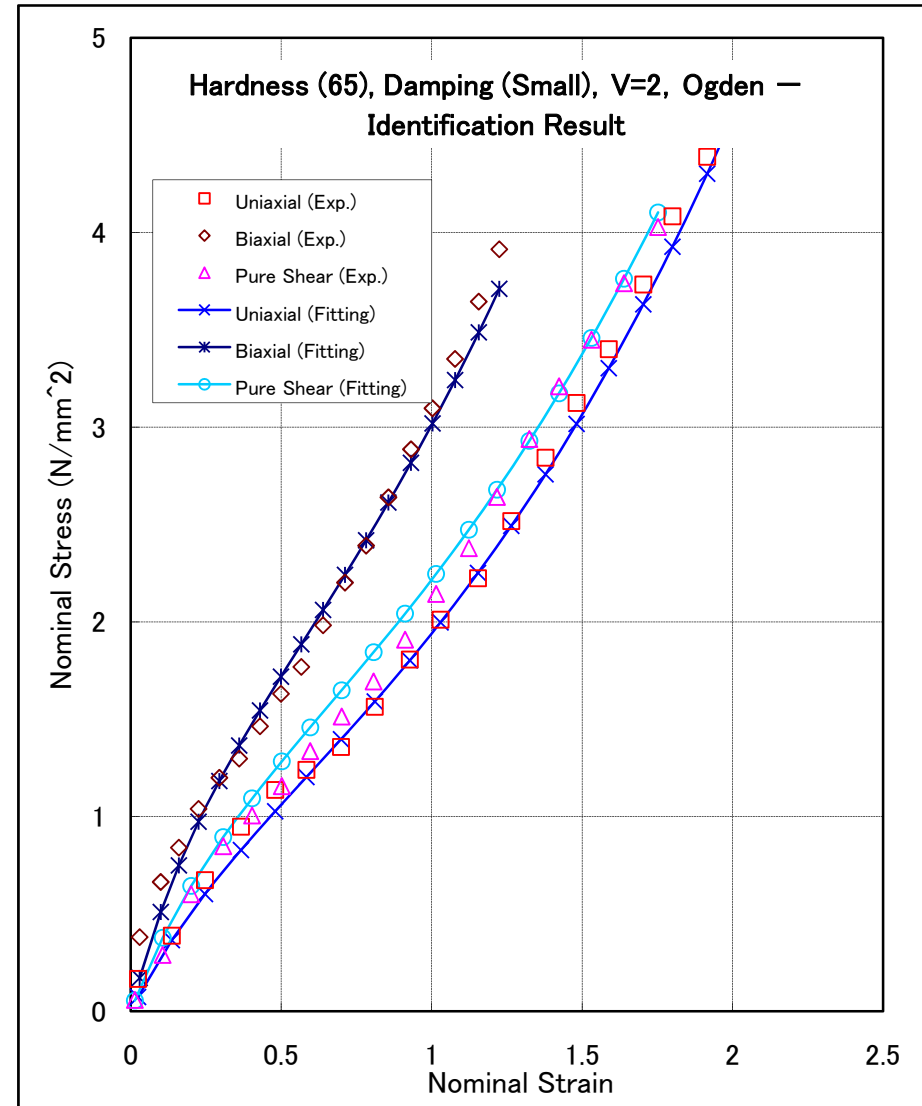
$$W = \sum_{n=1}^N \frac{\mu_n}{\alpha_n} \left[ J^{\frac{\alpha_n}{3}} (\lambda_1^{\alpha_n} + \lambda_2^{\alpha_n} + \lambda_3^{\alpha_n}) - 3 \right]$$

Rate of Loading in Tension Test(s)

2 mm/s

Coefficient

Coefficient		
Order	$\mu$	$\alpha$
1	-2.84753	-1.18191
2	8.05911	-0.84372
3	-13.1239	-0.365462
4	0.182887	3.76881



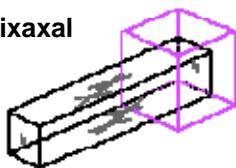
Identification result:  
Stress-strain relationship

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

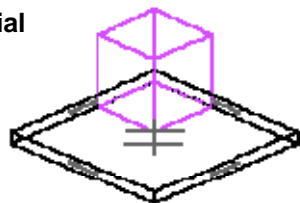
MSC.Marc

Input File: ys\_nsl\_v2\_marc\_o.dat

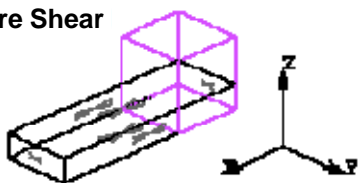
Uniaxial



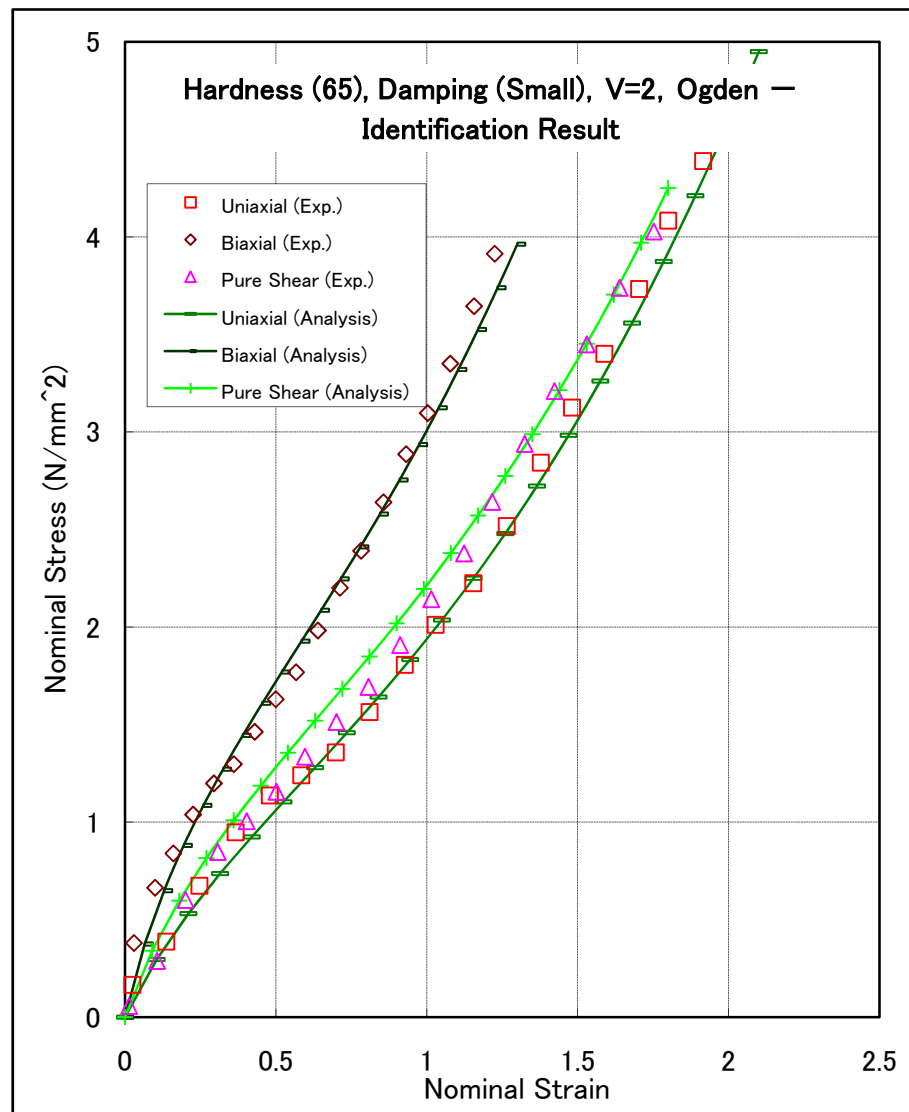
Biaxial



Pure Shear



Analysis model



Analysis result:  
Stress-strain relationship

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

MSC.Marc

Ogden model

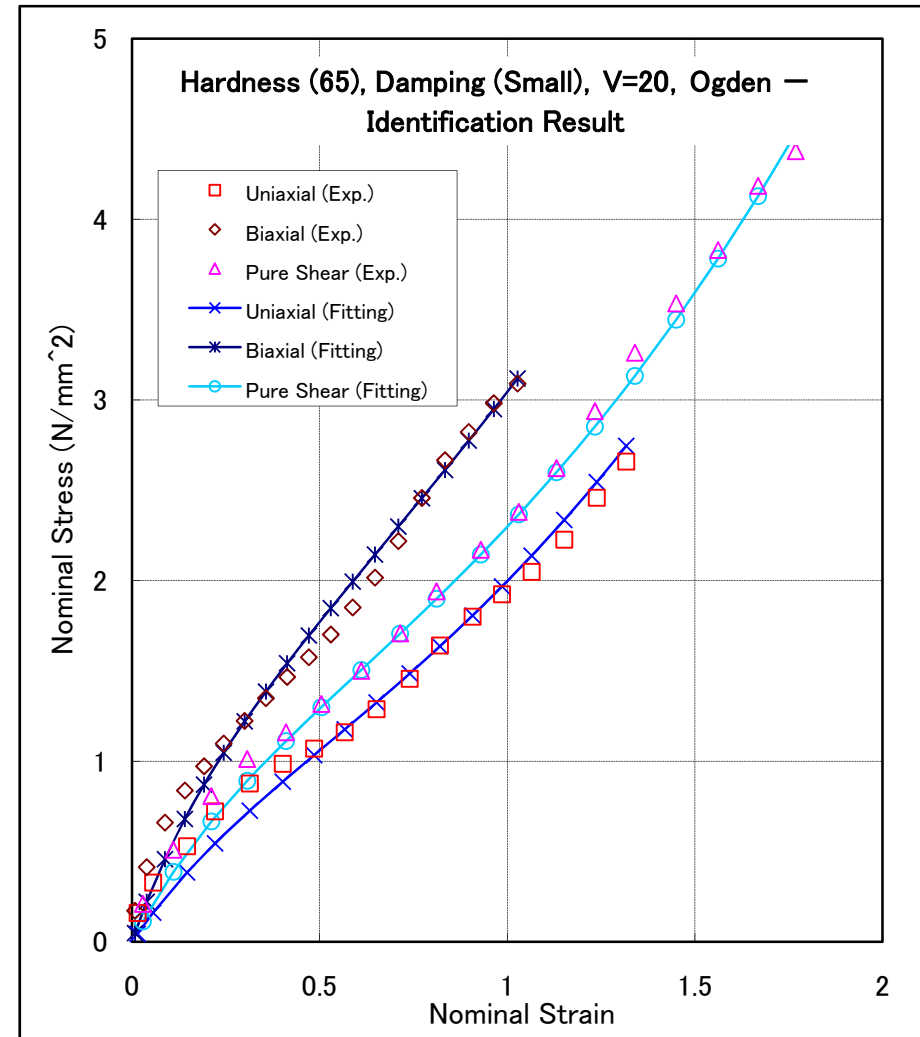
$$W = \sum_{n=1}^N \frac{\mu_n}{\alpha_n} \left[ J^{\frac{\alpha_n}{3}} (\lambda_1^{\alpha_n} + \lambda_2^{\alpha_n} + \lambda_3^{\alpha_n}) - 3 \right]$$

Rate of Loading in Tension Test(s)

20 mm/s

Coefficient

Coefficient		
Order	$\mu$	$\alpha$
1	0.203138	3.79678
2	17.4184	-0.0907041
3	-0.0716162	-1.3888
4	-12.7747	-0.214762

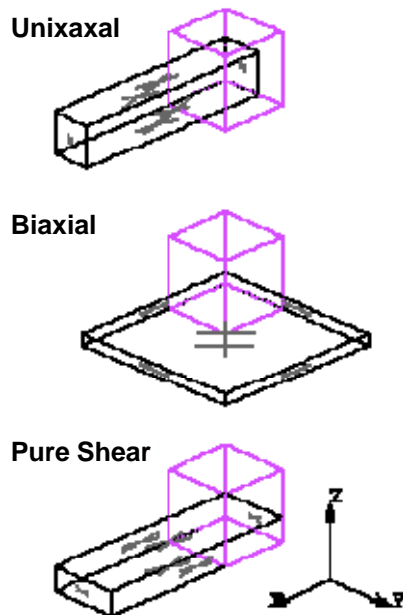


Identification result:  
Stress-strain relationship

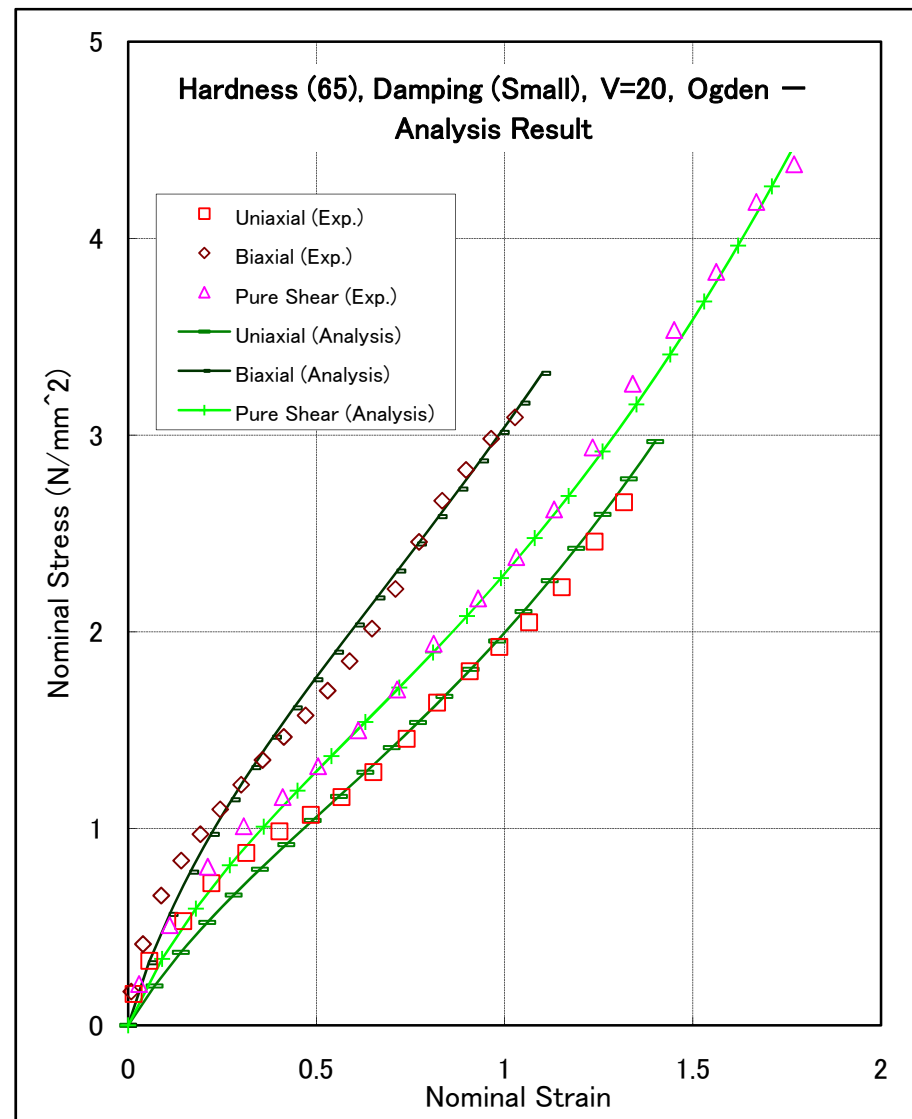
# Analysis with Ogden model: Hardness (65), Damping (Small), V=20

MSC.Marc

Input File: ys\_nsl\_v20\_marc\_o\_dat



Analysis model



Analysis result:  
Stress-strain relationship