

# NISSO Powdered 1,2-Polybutadiene 【Development stage】

**NISSO-PB**  
Liquid Polybutadiene

**NISSO Powdered 1,2-Polybutadiene** is a liquid polybutadiene resin dispersed on a **silicon dioxide carrier** for ease in handling.

- Free flowing powder. **No heating operation required** to lower the viscosity of liquid polybutadiene.
- Can be treated as powder when measuring raw materials.
- Adding 1,2-polybutadiene becomes easier, greatly improving workability during kneading.
- Good dispersibility in rubber and excellent rubber modification effect.



Liquid 1,2-polybutadiene  
B-3000



Powdered 1,2-Polybutadiene  
B-3000

- B-3000/Silica=67/33(Weight % ratio)
- 1,2-vinyl ratio : 87%



- **No change in the 1,2-vinyl group ratio** and molecular weight of liquid polybutadiene (NISSO-PB B-3000) before and after powder processing.
- No leaching and agglomeration of the resin in synthetic rubber over time, and storage stability is good.

Free samples are available



**NIPPON SODA CO.,LTD.**

# NISSO Powdered Polybutadiene Improves EPDM Rubber Performance

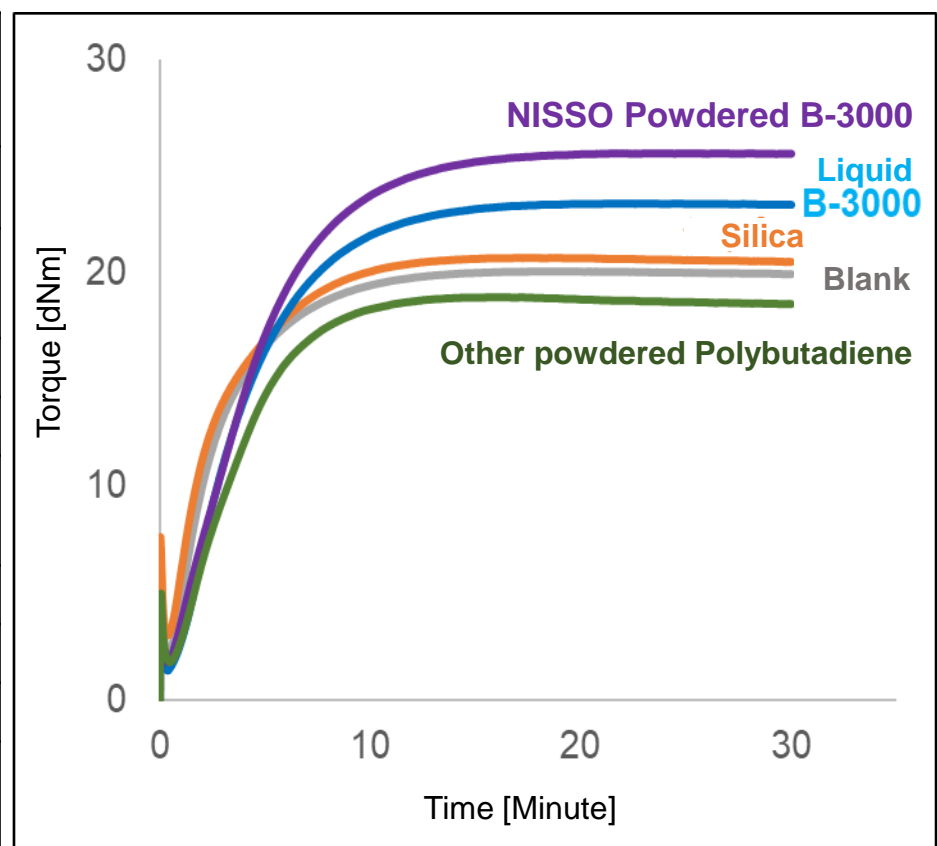
**NISSO-PB**  
Liquid Polybutadiene

NISSO Powder Polybutadiene (Powdered B-3000) provides excellent crosslinking performance comparable to Liquid Polybutadiene (B-3000) without affecting vulcanization.

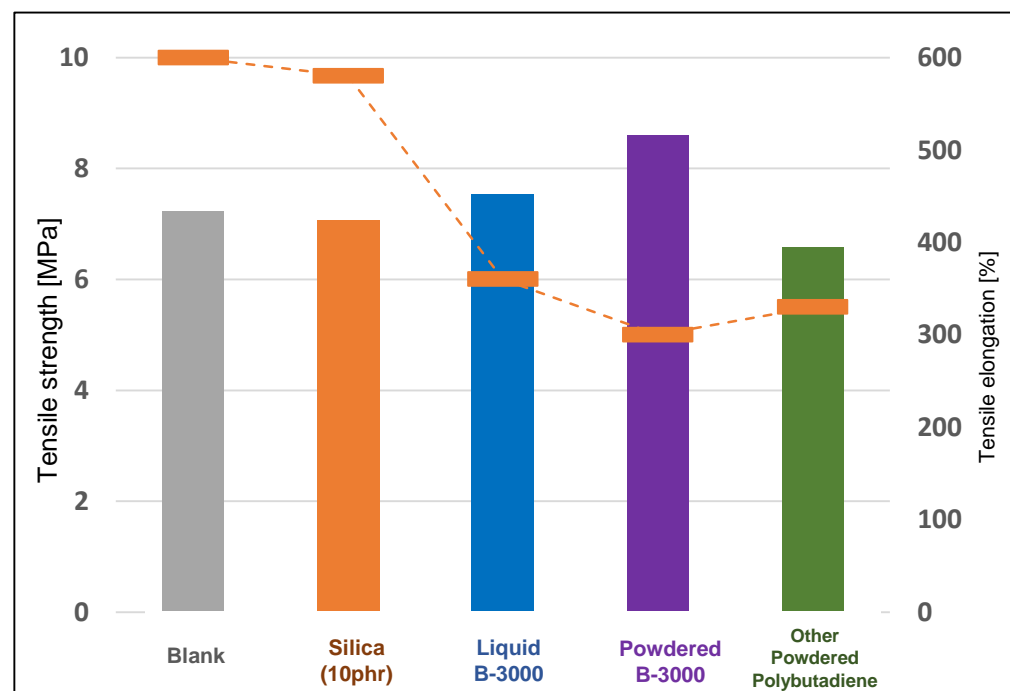
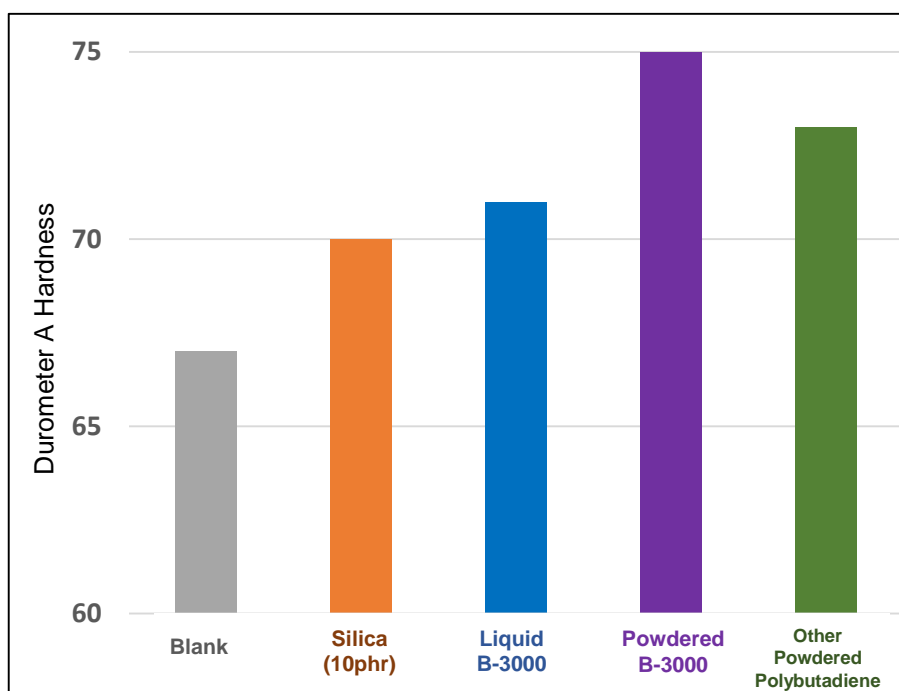
EPDM formulation using Powdered B-3000 has higher surface hardness and tensile strength than silica formulation, NISSO liquid polybutadiene (B-3000) formulation, and other powdered polybutadiene formulation.

## EPDM Model Formulations [phr]

Ingredient	Liquid B-3000	Powdered B-3000	Other Powdered Polybutadiene
EPDM	100.0	100.0	100.0
Crosslinking agent <sup>1)</sup>	15.0	22.5	22.2
Zinc oxide	5.0	5.0	5.0
Stearic acid	1.0	1.0	1.0
Calcined kaolin <sup>2)</sup>	120.0	112.5	112.8
Carbon black	5.0	5.0	5.0
Paraffin oil	6.0	6.0	6.0
Paraffin wax	5.0	5.0	5.0
Dicumyl peroxide D-40	7.0	7.0	7.0



- 1) Set the amount of each crosslinking agent according to the amount of liquid B-3000 added.
- 2) The total amount of filler content and Calcined kaolin is constant for each formulation.



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