

# ArmourGRAPH™ sets a new standard for extending the life and performance of wear liners

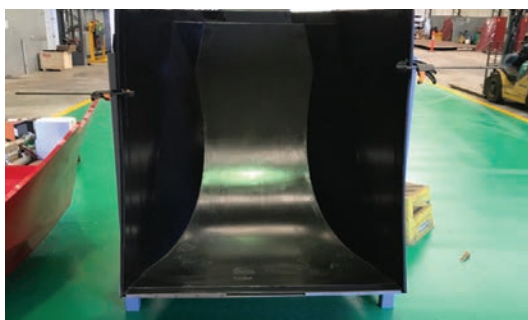
In a world first, newGen can now offer graphene enhanced wear liners for the mining and processing industries, that clearly outperform traditional applications.

ArmourGRAPH™ is a newGen developed wear liner product that is strengthened with PureGRAPH™ graphene. ArmourGRAPH™ wear liners demonstrate typical tensile strength improvements of >30% and abrasion resistance improvement of ~100%.

## ArmourGRAPH™ key benefits.

- Enhanced wear resistance for increased service life
- Improved elongation and increased tensile strength
- Self-lubrication for flow promotion (low coefficient of friction)
- Barrier against caustic and acidic environments
- Fire retardant characteristics

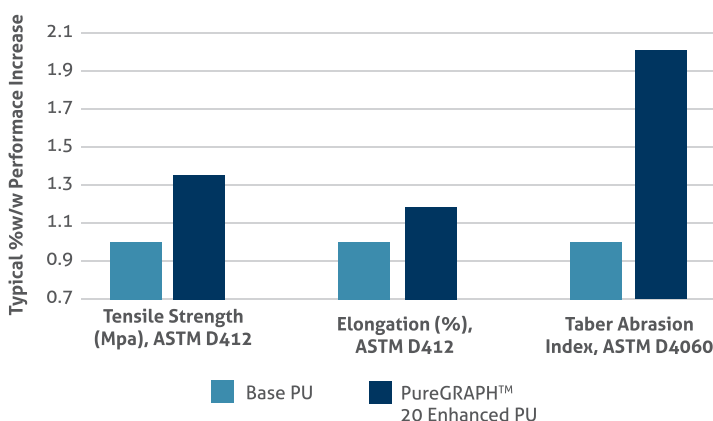
The applications for ArmourGRAPH™ include bucket liners, pipe spooling, chutes, conveyor components and screen media.



Reclaimer bucket liner enhanced with ArmourGRAPH™

## Typical Performance Increase Of PureGRAPH™ 20 Enhanced Polyurethane Elastomers Compared To Base Material

The following table shows the results of analysis that was conducted by an independent NATA accredited laboratory. The study focused on tensile strength, elongation and abrasion resistance.



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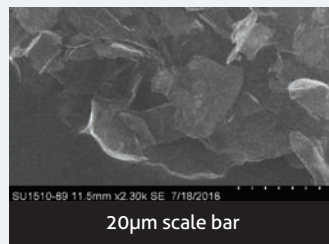
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## Technical Data

The PureGRAPH™ graphene used in ArmourGRAPH™ wear liners are readily dispersed in a range of solvent and polymer media. Batch to batch consistency is ensured through leading edge quality control testing. This ensures that every ArmourGRAPH™ wear liner product offers even and consistent wear characteristics.

### Scanning Electron Microscopy (SEM):

Typical SEM analysis of PureGRAPH™ 20 powders showing non-aggregated, uniform sized graphene nanoplatelets.



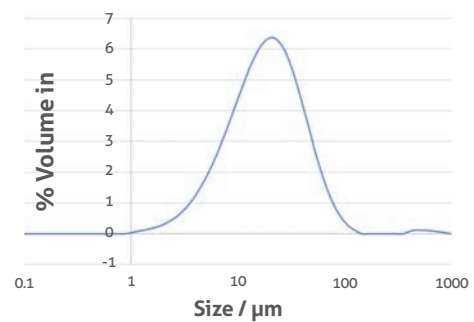
### PureGRAPH™ 20

**D50 = 20 µm**

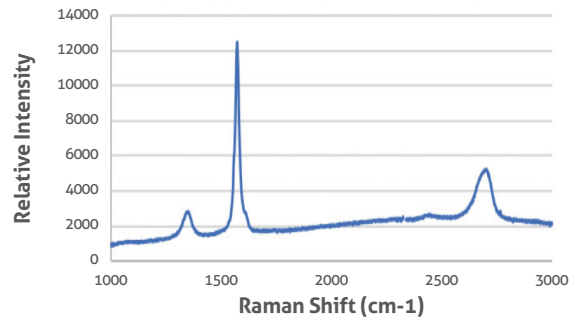
**Sheet Resistance<sup>3</sup> = ~10 Ohm/square**

**Tapped Density<sup>4</sup> = 0.251 gcm<sup>-3</sup>**

Particle Size Distribution<sup>1</sup>



Raman Spectroscopy<sup>2</sup>



Enhanced wear resistance • Improved tensile strength • Increased elongation • Self lubricating for flow promotion

## Research and Development

NewGen is involved in ongoing research and development of further products for a wide range of wear, resistance and protective applications. We welcome enquiries from companies and organisations looking to collaborate on possible applications of our ArmourGRAPH™ technology.



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PureGRAPH™ 20 is a high performing graphene additive supplied by First Graphene Ltd. [www.firstgraphene.com.au](http://www.firstgraphene.com.au)