

ACCREDITED REFERENCE MATERIAL (GA ARM) : CATALOGUE

ACCREDITED TO ISO 17034 : General requirements for the competence of reference material producers.

(Available in 250g units, except GA ARM048, GA ARM 062 which is in 50g units,) (GA ARM042 onwards available in 200g units)

LIST OF SPECIFICATIONS FOR GENERAL ANALYSIS SAMPLES-Version 29/08/2024

PULVERISED COAL LESS THAN 212 μ m, < 60 MESH (DRY BASE RESULTS)

| PRODUCT | ISO ASH% | ISO VOLATILES (%) | CALORIFIC VALUE (MJ/Kg) | TOTAL SULPHUR (%) | PHOSPHORUS IN COAL (%) | TOTAL CARBON (%) | HYDROGEN (%) | NITROGEN (%) | AFT (REDUCING) DEFORMATION (°C) | AFT (REDUCING) SOFTENING (°C) | AFT (REDUCING) HEMISPHERE (°C) | AFT (REDUCING) FLOW (°C) |
|-------------|----------|-------------------|-------------------------|-------------------|------------------------|------------------|--------------|--------------|---------------------------------|-------------------------------|--------------------------------|--------------------------|
| GA -ARM 019 | 64.11 | 10.30 | 9.55 | 3.02 | - | - | - | - | - | - | - | - |
| GA -ARM025 | - | - | - | 0.59 | 0.036 | - | - | - | - | - | - | - |
| GA -ARM026 | - | - | - | 2.10 | - | - | - | - | - | - | - | - |
| GA- ARM 027 | - | - | - | 0.82 | 0.015 | - | - | - | 1350 | 1375 | 1405 | 1430 |
| GA -ARM028 | - | - | - | 0.94 | - | - | - | - | 1228 | 1253 | 1277 | 1325 |
| GA ARM029 | - | - | - | 2.24 | - | - | - | - | - | - | - | - |
| GA- ARM030 | - | - | - | 1.34 | - | - | - | - | 1383 | 1418 | 1446 | 1488 |
| GA -ARM034 | - | - | - | 0.74 | - | - | - | - | - | - | - | - |
| GA- ARM036 | 13.18 | 10.03 | 29.70 | 2.23 | 0.091 | - | - | - | - | - | - | - |
| GA- ARM038 | 15.05 | 23.53 | 28.06 | 0.76 | 0.079 | - | - | - | - | - | - | - |

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|-------------|----------|-------------------|-------------------------|-------------------|------------------------|------------------|--------------|--------------|---------------------------------|-------------------------------|--------------------------------|--------------------------|
| GA- ARM039 | 14.65 | 17.89 | 30.24 | 1.67 | 0.040 | - | - | - | - | - | - | - |
| GA- ARM041 | 29.33 | 18.64 | 22.40 | 1.67 | 0.038 | 57.95 | 2.85 | 1.51 | 1295 | 1330 | 1373 | 1415 |
| GA- ARM042 | 40.69 | 21.43 | 16.44 | 0.82 | 0.061 | 44.17 | 2.43 | 1.03 | - | - | - | - |
| GA ARM045 | 10.53 | 27.42 | 28.83 | 0.60 | 0.033 | 73.15 | 4.04 | 1.70 | - | - | - | - |
| GA- ARM046 | 16.57 | 20.08 | 28.65 | 1.47 | 0.037 | 71.40 | 3.77 | 1.86 | 1330 | 1359 | 1390 | 1430 |
| GA- ARM047 | 23.49 | 21.72 | 24.09 | 0.91 | 0.093 | 61.95 | 3.06 | 1.45 | - | - | - | - |
| GA- ARM048 | 4.95 | 3.07 | 32.08 | 0.26 | 0.017 | 90.45 | 1.35 | 0.95 | - | - | - | - |
| GA- ARM049 | 25.07 | 17.87 | 23.96 | 0.98 | 0.052 | 63.39 | 2.97 | 1.40 | - | - | - | - |
| GA- ARM050 | 13.06 | 26.73 | 27.74 | 0.45 | 0.147 | 70.68 | 3.87 | 1.73 | - | - | - | - |
| GA- ARM052 | 23.81 | 23.23 | 23.95 | 0.90 | 0.030 | 61.52 | 3.42 | 1.52 | - | - | - | - |
| GA- ARM053 | 14.33 | 27.40 | 27.58 | 0.46 | 0.138 | 70.04 | 4.08 | 1.70 | - | - | - | - |
| GA- ARM054 | 22.73 | 25.23 | 24.66 | 0.93 | 0.032 | 62.71 | 3.69 | 1.53 | 1390 | 1420 | 1450 | 1490 |
| GA- ARM055 | 18.85 | 23.99 | 25.33 | 0.54 | 0.090 | 66.25 | 3.53 | 1.58 | - | - | - | - |
| GA- ARM056 | 33.53 | 19.37 | 20.23 | 0.98 | 0.043 | 53.05 | 2.84 | 1.20 | - | - | - | - |
| GA- ARM 058 | 15.77 | 28.31 | 27.57 | 0.54 | 0.083 | 69.24 | 4.02 | 1.66 | 1390 | 1416 | 1455 | 1490 |
| GA- ARM 059 | 29.98 | 22.87 | 21.48 | 1.80 | 0.013 | 54.81 | 3.11 | 1.46 | 1280 | 1310 | 1340 | 1400 |
| GA- ARM 060 | 19.12 | 20.94 | 27.24 | 1.56 | 0.034 | 68.67 | 3.63 | 1.74 | 1345 | 1375 | 1400 | 1435 |
| GA- ARM 061 | 12.26 | 35.60 | 29.44 | 1.07 | 0.024 | 71.34 | 4.73 | 1.57 | 1405 | 1430 | 1460 | 1490 |

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|-------------|----------|-------------------|-------------------------|-------------------|------------------------|------------------|--------------|--------------|---------------------------------|-------------------------------|--------------------------------|--------------------------|
| GA- ARM 062 | - | - | - | 6.00 | - | - | - | - | - | - | - | - |
| GA-ARM 063 | 19.39 | 33.15 | 27.33 | 1.21 | 0.016 | 66.74 | 4.48 | 1.45 | 1230 | 1300 | 1320 | 1356 |
| GA-ARM 065 | 23.27 | 24.64 | 24.24 | 0.62 | 0.050 | 62.82 | 3.46 | 1.50 | 1370 | 1395 | 1420 | 1458 |

| PRODUCT | ASTM ASH% | ASTM VOLATILES (%) | Chlorine | FLUORINE |
|-------------|-----------|--------------------|----------|----------|
| GA- ARM039 | 14.65 | 18.57 | - | - |
| GA- ARM042 | 40.90 | 21.75 | - | - |
| GA- ARM046 | 16.65 | 20.44 | - | 142 |
| GA- ARM048 | 5.03 | 2.94 | 607 | 58 |
| GA- ARM 049 | 25.23 | 19.02 | 136 | 153 |
| GA- ARM050 | 13.04 | 27.28 | - | 295 |
| GA- ARM053 | 14.38 | - | - | - |
| GA- ARM 054 | 22.88 | 26.35 | - | - |
| GA- ARM 056 | 33.58 | 20.32 | - | - |
| GA- ARM 058 | 15.70 | 29.03 | - | - |
| GA- ARM 060 | 19.35 | 21.19 | - | - |

**ASTM Ash, Volatile matter and Quick ash not accredited

**Chlorine /Florine not accredited, and values are indicative

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|-----------------------------------------------------------|-------------------------------------------------------------------|
| Accredited Benzoic acid pellets, traceable to NIST | Available in 1g and 0.5g weights 100 pills per bottle. |
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