

Vitfa Co

# BITUMEN

## Analysis

### Penetration Grade Bitumen



| NO | TEST                                  | TEST METHO D | 30/40     | 40/50     | 60/70     | 85/100    |
|----|---------------------------------------|--------------|-----------|-----------|-----------|-----------|
| 1  | Specific Gravity @ 25 C               | ASTM_D 3289  | 1.00_1.25 | 1.00_1.25 | 1.00_1.25 | 1.00_1.25 |
| 2  | Penetration @25 C , 10 Mm             | ASTM_D5      | 30-40     | 40-50     | 60_70     | 85-100    |
| 3  | Softening Point , C                   | ASTM_D36     | 55-63     | 52-60     | 49_56     | 45-52     |
| 4  | Ductility @ 25 C , Cm                 | ASTM_D113    | Min 100   | Min 100   | Min 100   | Min 100   |
| 5  | Loss On Heating , Wt %                | ASTM_D6      | 0.03      | 0.03      | 0.03      | 0.03      |
| 6  | Drop In Penetration After Heating , % | ASTM_D6 / D5 | Max 20    | Max 20    | Max 20    | Max 20    |
| 7  | Spot Test                             | AASHTO T 102 | NEG       | NEG       | NEG       | NEG       |
| 8  | Flash Point , C                       | ASTM_D 92    | Min 250   | Min 250   | Min 250   | Min 250   |
| 9  | Solubility In Cs2,Wt %                | ASTM_D4      | 5.99      | 5.99      | 5.99      | 5.99      |

# VG bitumen

| TEST                                         | Viscosity |          |          |          |
|----------------------------------------------|-----------|----------|----------|----------|
|                                              | VG10      | VG20     | VG30     | VG40     |
| Viscosity at 60 C                            | 1000±200  | 2000±400 | 3000±600 | 4000±800 |
| Viscosity at 135 C                           | 250       | 300      | 350      | 400      |
| Penetration at 25 C, 100 grams, five seconds | 80        | 60       | 50       | 40       |
| Flash point, Cleveland open cup              | 219       | 232      | 232      | 232      |
| Solubility in trichloroethylene              | 99/0      | 99/0     | 99/0     | 99/0     |
| Test on the residue of thin bitumen layer    |           |          |          |          |
| Heating loss                                 | 0/5       | 0/5      | 0/5      | 0/5      |
| Viscosity at 60 C                            | 4000      | 8000     | 12000    | 16000    |
| Ductility at 25 C, 5cm/min                   | 75        | 50       | 40       | 25       |

## Cutback Bitumen

| No                                        | Test                         | Unit | Method       | Results |         |         |          |           |
|-------------------------------------------|------------------------------|------|--------------|---------|---------|---------|----------|-----------|
|                                           |                              |      |              | MC-30   | MC-70   | MC-250  | MC-800   | MC-3000   |
| 1                                         | Kin.Vis @ 60                 | CST  | ASTM • D2170 | 30-60   | 70-140  | 250-500 | 800-1600 | 3000-6000 |
| 2                                         | Flash Point(Min)             | °c   | ASTM • 03143 | 38      | 38      | 66      | 66       | 66        |
| 3                                         | Water Point(Max)             | %Vol | ASTM - D95   | 0.2     | 0.2     | 0.2     | 0.2      | 0.2       |
| 4                                         | Distillate To 360            |      |              |         |         |         |          |           |
|                                           | 225(Max)                     | %Vol | ASTM • D402  | 35      | 25      | 20      | -        | -         |
|                                           | 260                          | %Vol |              | 30-75   | 10-70   | 5-55    | 40       | 15        |
|                                           | 315                          | %Vol |              | 75-95   | 65-93   | 60-90   | 45-85    | 15-75     |
| 5                                         | Residue From Distillation To |      | ASTM • D402  | 50      | 55      | 67      | 75       | 80        |
| Test On Residue Bitumen From Distillation |                              |      |              |         |         |         |          |           |
| 6                                         | Penetration @ 25             | ec   | ASTM • D5    | 120-300 | 120-300 | 120-300 | 120-300  | 120-300   |
| 7                                         | Ductility(Min)               | cc   | ASTM • D113  | 100     | 100     | 100     | 100      | 100       |
| 8                                         | Solubility In                | %WT  | ASTM • D2042 | 99      | 99      | 99      | 99       | 99        |