

APPARATUS

1. Micro-Deval Abrasion Machine, Jar rolling mill running at  $100 \pm 5$  rpm? ..... \_\_\_\_\_
2. Containers, stainless steel micro-Deval abrasion jars:
  - (a) Jars with rubber ring in rotary locking cover, 5 L capacity? ..... \_\_\_\_\_
  - (b) External diameter is **194 - 202mm**? ..... \_\_\_\_\_
  - (c) Internal height is **170 - 177mm**? ..... \_\_\_\_\_
  - (d) Outside surface smooth (no observable ridges or indentations)? ..... \_\_\_\_\_
  - (e) Inside surface smooth (no observable ridges or indentations)? ..... \_\_\_\_\_

**Note: Occasionally, concentric grooves may be worn into the inside of the jar by the steel balls. These grooves are not objectionable provided the distance between the crest and the trough is not more than 3mm and the control aggregate data meets requirements.**
3. Abrasion charge, stainless steel balls:
  - (a) diameter is  $9.5 \pm 0.5$  mm? ..... \_\_\_\_\_
  - (b) charge is  $5000 \pm 5$  g of balls? ..... \_\_\_\_\_
4. Sieves of the following sizes:
 

19.0 mm? _____.	9.5 mm? _____.	4.75 mm? _____.
16.0 mm? _____.	6.7 mm? _____.	1.18 mm? _____.
13.2 mm? _____.		
5. Oven, capable of maintaining  $110 \pm 5^\circ\text{C}$ ? ..... \_\_\_\_\_
6. Balance, accurate to 0.1 g? ..... \_\_\_\_\_
7. Control Aggregate, a supply of standard 'Brechin' coarse aggregate? ..... \_\_\_\_\_

COMMENTS:

PROCEDURE

Sample Preparation

1. Sample obtained by LS-600? ..... \_\_\_\_\_
2. Sample prepared as follows: total mass is  $1500 \pm 5$  g? ..... \_\_\_\_\_
  - A Grading:**
    - 19.0 to 16.0 mm: 375 g? \_\_\_\_\_
    - 16.0 to 13.2 mm: 375 g? \_\_\_\_\_
    - 13.3 to 9.5 mm: 750 g? \_\_\_\_\_
  - or B Grading** where maximum nominal size is less than 16.0 mm:
    - 13.2 to 9.5 mm: 750 g? \_\_\_\_\_
    - 9.5 to 6.7 mm: 375 g? \_\_\_\_\_
    - 6.7 to 4.75 mm: 375 g? \_\_\_\_\_
  - or C Grading** where maximum nominal size is less than 13.2 mm:
    - 9.5 to 6.7 mm: 750 g? \_\_\_\_\_
    - 6.7 to 4.75 mm: 750 g? \_\_\_\_\_
3. Sample washed? ..... \_\_\_\_\_
4. Dried to constant mass at  $110 \pm 5^\circ\text{C}$ ? ..... \_\_\_\_\_

Procedure

1. Record starting weight (Mass 'A') to 1.0 g? ..... \_\_\_\_\_
2. Saturate in  $2.0 \pm 0.05$  L tap water (temperature  $20 \pm 5^\circ\text{C}$ ) minimum 1 hour? ..... \_\_\_\_\_
3. Charge of steel balls is  $5000 \pm 5$  g? ..... \_\_\_\_\_
4. Run machine at  $100 \pm 5$  rpm: ..... \_\_\_\_\_
  - A Grading: for  $120 \pm 1$  minute
  - B Grading: for  $105 \pm 1$  minute
  - C Grading: for  $100 \pm 1$  minute
5. Contents of container washed over nested 4.75 and 1.18 mm sieves? ..... \_\_\_\_\_
6. Until wash water clear? ..... \_\_\_\_\_
7. Abrasion charge of stainless steel balls removed? ..... \_\_\_\_\_
8. Material on 4.75 and 1.18 combined and dried to constant mass at  $110 \pm 5^\circ\text{C}$ ? ..... \_\_\_\_\_
9. Record final weight (Mass 'B') to 1.0 g? ..... \_\_\_\_\_
10. Lab says per cent loss calculated to book formula? ..... \_\_\_\_\_

Use of Laboratory Control Aggregate

1. Laboratory has a supply of control aggregate? Source: Brechin..... \_\_\_\_\_
2. Control sample tested every 10 samples or at least every week when samples tested? ..... \_\_\_\_\_
3. Control sample mean loss is 16.9%, range is 15.6 to 18.3%? ..... \_\_\_\_\_
4. Control chart showing data for last 20 samples of reference material? ..... \_\_\_\_\_
  - Mean for last 20 samples ..... \_\_\_\_\_
  - Low for last 20 samples ..... \_\_\_\_\_
  - High for last 20 samples ..... \_\_\_\_\_

COMMENTS