

# EDS

Engineering,  
GM DAEWOO Auto & Technology.  
Standards

## WEAR RESISTANT ALLOYED GREY IRON CASTINGS

### EDS-M-1907

**ISSUED DATE: 1994. 07. 12**

**REVISED DATE: 2003. 02. 28**

**VERSION: 3**

## 1. SCOPE

This standard specifies wear resistant alloyed grey iron castings used by *GM DAEWOO Auto & Technology Company(hereinafter referred to as the "GMDAT")*.

## 2. TYPE AND USE

Table 1. Type and Use

| Type    | Use                                                                                           | Application  |
|---------|-----------------------------------------------------------------------------------------------|--------------|
| FCW 260 | Iron castings for structural purposes requiring wear resistance<br>( Including hardenability) | Cam shaft    |
| FCW 270 |                                                                                               | Cam follower |

## 3. Quality

### 3.1. Chemical composition

Table 2. Chemical Composition

Unit : WT%

| Type    | C                        | Si        | Mn        | P         | S         | Cr        | Ni        | Mo        |
|---------|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| FCW 260 | 3.10~3.45<br>(0.95~1.25) | 2.15~2.45 | 0.60~0.90 | 0.20 max. | 0.17 max. | 0.85~1.20 | 0.20~0.40 | 0.40~0.60 |
| FCW 270 | 3.00~3.25<br>(1.25~2.25) | 2.10~2.40 | 0.70~0.90 | 0.20 max. | 0.10 max. | 0.90~1.10 | 0.40~0.70 | 0.40~0.70 |

Remark : 1. Carbon contents within( ) indicate contents of combined carbon.

2. Compositions in Table 2.(including combined carbon) are the reference values and may be agreed upon between the parties concerned.

### 3.2. Mechanical properties

#### 3.2.1. Brinell hardness (HB, F=30D<sup>2</sup>)

Values resulting from the test performed to the standard part or the part specified in the drawing with a ball of 5 shall satisfy the following values.

FCW 260 : 262 ~ 311

FCW 270 : 270 ~ 380

#### 3.2.2. Hardenability : When oil quenching at 850℃, shall have the following surface hardness.

FCW 260 : 48 HRC min.

FCW 270 : 56 ~ 64 HRC

### 3.3. Microstructure

3.3.1. Graphite shall be finely and uniformly distributed and matrix shall be made up of free carbide, pearlite and solbite structure.