

This page is mainly introduced the SA-240 S32109 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of SA-240 S32109, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Specialsteel SA-240 S32109

### SA-240 S32109 Standard Number:

| ITEM | Standard Number | Descriptions                                                                                                                             |
|------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | SA-240/SA-240M  | Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications |

### SA-240 S32109 Chemical composition (mass fraction) (wt.%)

| Chemical |    |    |    |       |    |    |    |       |       | Min.(%) |  |  |  | Max.(%) |  |  |  |
|----------|----|----|----|-------|----|----|----|-------|-------|---------|--|--|--|---------|--|--|--|
| C        |    |    |    | 0.04  |    |    |    | 0.10  |       |         |  |  |  |         |  |  |  |
| Mn       |    |    |    |       |    |    |    | 2.00  |       |         |  |  |  |         |  |  |  |
| Si       |    |    |    |       |    |    |    | 1.00  |       |         |  |  |  |         |  |  |  |
| P        |    |    |    |       |    |    |    | 0.04  |       |         |  |  |  |         |  |  |  |
| S        |    |    |    |       |    |    |    | 0.03  |       |         |  |  |  |         |  |  |  |
| Cr       |    |    |    | 17.00 |    |    |    | 20.00 |       |         |  |  |  |         |  |  |  |
| Ni       |    |    |    | 9.00  |    |    |    | 12.00 |       |         |  |  |  |         |  |  |  |
| C        | Si | Mn | P  | S     | Cr | Ni | Mo | V     | Ta    |         |  |  |  |         |  |  |  |
|          |    |    |    |       |    |    |    |       |       |         |  |  |  |         |  |  |  |
| W        | N  | Cu | Co | Pb    | B  | Nb | Al | Ti    | Other |         |  |  |  |         |  |  |  |
|          |    |    |    |       |    |    |    |       |       |         |  |  |  |         |  |  |  |

Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications

### SA-240 S32109 Physical Properties

|                  |         |                          |
|------------------|---------|--------------------------|
| Tensile strength | 115-234 | $\sigma_b$ /MPa          |
| Yield Strength   | 23      | $\sigma_{0.2} \geq$ /MPa |
|                  |         |                          |

|            |         |                      |
|------------|---------|----------------------|
| Elongation | 65      | $\delta 5 \geq (\%)$ |
| $\psi$     | -       | $\psi \geq (\%)$     |
| Akv        | -       | $Akv \geq /J$        |
| HBS        | 123-321 | -                    |
| HRC        | 30      | -                    |

### SA-240 S32109 Mechanical Properties

|                  |         |                                  |
|------------------|---------|----------------------------------|
| Tensile strength | 231-231 | $\sigma_b / \text{MPa}$          |
| Yield Strength   | 154     | $\sigma_{0.2} \geq / \text{MPa}$ |
| Elongation       | 56      | $\delta 5 \geq (\%)$             |
| $\psi$           | -       | $\psi \geq (\%)$                 |
| Akv              | -       | $Akv \geq /J$                    |
| HBS              | 235-268 | -                                |
| HRC              | 30      | -                                |

### SA-240 S32109 Heat Treatment Regime

| Annealing | Quenching | Tempering | Normalizing | Q & T |
|-----------|-----------|-----------|-------------|-------|
| √         | √         | √         | √           | √     |

### SA-240 S32109 Range of products

| Product type    | Products                                 | Dimension                  | Processes                                   | Deliver Status                                                |
|-----------------|------------------------------------------|----------------------------|---------------------------------------------|---------------------------------------------------------------|
| Plates / Sheets | Plates / Sheets                          | 0.08-200mm(T)*W*L          | Forging, hot rolling and cold rolling       | Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting |
| Steel Bar       | Round Bar, Flat Bar, Square Bar          | $\Phi 8$ -1200mm*L         | Forging, hot rolling and cold rolling, Cast | Black, Rough Turning, Shot Blasting,                          |
| Coil / Strip    | Steel Coil / Steel Strip                 | 0.03-16.0x1200mm           | Cold-Rolled & Hot-Rolled                    | Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting |
| Pipes / Tubes   | Seamless Pipes/Tubes, Welded Pipes/Tubes | OD:6-219mm x WT:0.5-20.0mm | Hot extrusion, Cold Drawn, Welded           | Annealed, Solution and Aging, Q+T, ACID-WASHED                |

**We can produce Special steel the specifications follows:**