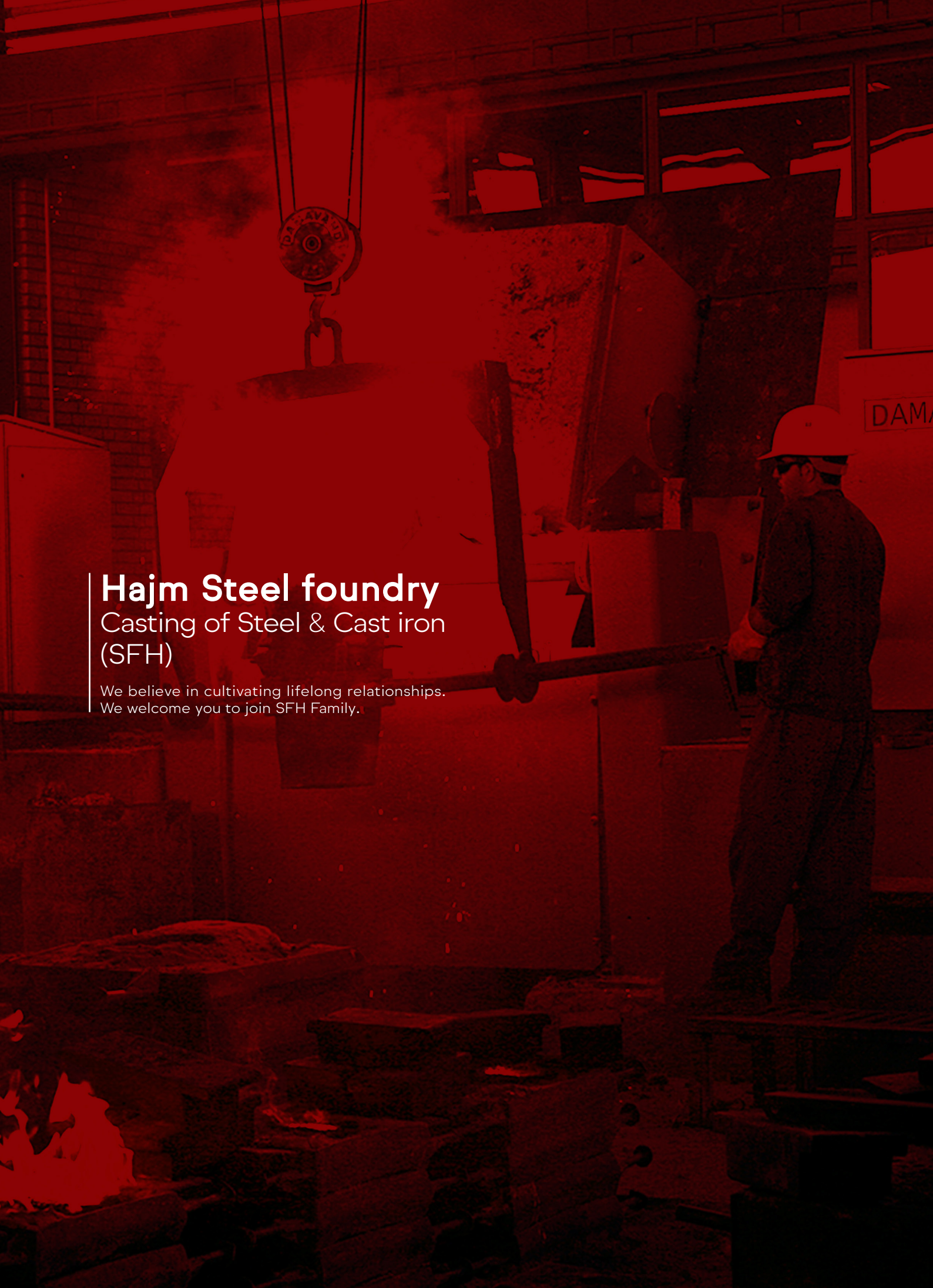


Hajm Steel foundry

Casting of Steel & Cast iron (SFH)

We believe in cultivating lifelong relationships.
We welcome you to join SFH Family.

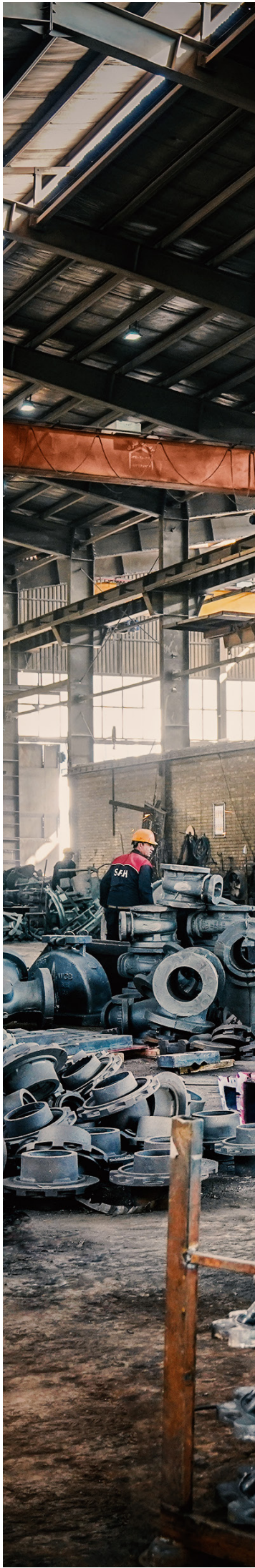
Introduction

Hajm Steel Casting Industries (SFH), established in 2004, is a private joint stock company registered under number 35966 in Isfahan, Iran.

The company operates within the Mahmoud Abad Industrial Town in Isfahan and spans an area of 10,000 square meters. This includes 5,000 square meters dedicated to production, 300 square meters of office space, 1,700 square meters of warehouse, and 3,000 square meters of green space.

With a workforce exceeding 110 employees, it comprises a range of professionals, including a PhD expert, nine with master's degrees, 15 bachelor's degree holders, 20 associate's degree holders, and 65 skilled workers and laborers.

SFH is equipped with modern facilities and specializes in the production of various cast iron and steel grades, adhering to **National and International Standards**. It boasts an annual production capacity of over 2,500 tons of industrial steel and cast iron components.



Mission

With years of casting industry experience, this complex has grown to a remarkable enterprise that can readily increase its market share in the casting industry and supply of raw materials to associated industries. Assuring quality, providing reasonable rates, and fulfilling client demands and satisfaction are the main priorities of SFH.

Vision

SFH remains at the forefront of the casting industry for diverse industrial applications, while fostering healthy and sustainable business relations.

CEO's Massage

Certainly, staying up to date with emerging trends and responding to changing difficulties calls for a thorough strategy, constant enhancement of the volume of products, identification of new information and technology, and committed work from all employees and colleagues. By comprehending consumer needs and carefully estimate expert comments, the SFH aims to produce products with the highest standards for a country's clients and industries. Our ability to lead innovation and profitability within the foundry sector, as well as to deliver the best services our clients demand, is bolstered by our trust in our cherished customers and the backing of a highly talented team.

Industries Served

- Steel Making Industry
- Cement Industry
- Rail Industry
- Oil, Gas, Petrochemicals
- Mining & Mineral Processing
- Gas Turbines
- Power Generation
- Heavy Equipment

Fields of activity

Hajm Steel Co. is active in the casting and foundry of steel and cast-iron industrial parts also trading.

Molding

- Molding process: CO2 , Alphaset
- Facilities for pattern making with wood & ionolyte.
- Patterns are stored in a rack with iden tification and traceability of the location.
- Single piece weight range: 10Kg to 8Ton
- Minimum Wall Thickness: 10mm
- Minimum Core diameter: 25 mm

Melting:

Induction furnaces

1 350 KWH
Crucible capacity: 500 Kg

2 600 KWH
Crucible capacity: 1000 Kg

3 750 KWH
Crucible capacity: 2000 Kg

4 2000 KWH
Crucible capacity: 8000 Kg

- The temperature of molten metals was measured using a pyrometer and Disposable Thermocouple.
- All the equipment, temperature indicators, and controllers were calibrated at regular intervals.
- Crane-5MT and 12MT were installed and used to move scrap and poured shells.
- SolidWorks and Catia software were used for 3D Modeling & Pro Cast software for simulation .

Welding:

- Electronic welding machine.
- WPS and PQR done and available for different alloys.
- Qualified welders
- SMAW & MAG welding

Fettling:

Knock out facility

- Lathe machine for Gate machining
- Swing frame grinding
- Fiber cutting and pneumatic grinding
- Shot blasting machine

1. Hanger type

- Grinding machine
- Picking and passivation for stainless steel

Heat Treatment:

Furnace details of HT-01:

- Heat Sources: Gas
- Operating Temp: 1100° C
- Max Batch capacity: 10 TON
- Thermocouples: 2

Furnace details of HT-02:

- Heat Sources: Gas
- Operating Temp: 1200° C
- Max Batch capacity: 5 TON
- Thermocouples: 2

Furnace details of HT-03:

- Heat Sources: electricity
- Operating Temp: 1300° C
- Max Batch capacity: 20 Kg
- Thermocouples: 2
- Max Quenching time: 40 sec
- Quenching tank capacity of water: 100000 Lt.

Process:
Annealing, Normalizing, Water Quenching, Air Quenching ,Solution Annealing& Tempering

Machining Facilities:

- Machining center–vertical
- CNC lathes
- Vertical milling centers
- Conventional lathes
- vertical turret lathe

Testing Facilities:

- **Hardness Testing**

Portable hardness tester for all hardness scales
CRM of Koopa Company (from Iran)

- **Spark Emission Spectroscopy**

Fe base spectrometer with 20 elements. CRM Samples of Low Alloy Steel, Manganese Steel, Gray Cast Iron, Ni-Hard Cast Iron, High Chrome Cast Iron. CRM of Razi Metallurgical Research Center (from IRAN), and Germany's Foundry Master

- **Micro Structure Examination:**

Metallographic analysis with image Analyzer. Ferrite Testing as per ASTM E 562 etc. Micro Structure Examination as per ASTM A 923 etc.

In- house Non Destructive Testing:

Magnetic Particle Testing (MT)

Method: Prod Type Wet Fluorescent Method

Procedures: EN 1369 and ASME Sec V Article 7 & 25 (E709)

- Central coil conductor method

Ultrasonic Testing (UT)

Type: Manual

Make: SIUI

Model: CTS 9005

Procedures: ASME Sec V Article 5, ASTM SA-609, EN126 80-2

Liquid penetrant testing (PT)

Method: Solvent & Water washable method

Test frequency: 100% Qty

Procedures: EN 1371-1 and ASME Sec V Article 6 & 24 (E165)

Radiography Testing (RT)

Source: Ir 192 & Co 60
Separate two facility for both source

Capacity: up to 120 mm thickness
Procedures: EN 12681 and ASME Sec V Article 2 & 22 (SE-1030)

Reference Radiograph: ASTM E446 & E186

Materials:

Our Teams technical experience allows us to handle a wide range of steel alloys and cast irons.

Carbon Steel	
ASTM	DIN
A216-WCB	1.0619
A216-WCC	1.0625
A352-LCC	1.6220
A352-LCB	1.1131
A27-70-36	
A148-80-50	
A148_90_60	
A148-105-85	
A148-150-135	1.0455
	1.0446
	1.1165
	1.1118
	1.6570

Austenitic Stainless Steel	
ASTM	DIN
A351-CF8	1.4308
A351-CF8M	1.4408
A351-CF3	1.4309
A351-CF3M	1.4409
A351-CF8C	1.4552
A351-CF10	
A351-CK20	1.4843
A351-CH20	
A351-CN7M	
A351-CG8M	
A351-CG3M	
-CF8M(Nb)	1.4581

Manganese Steel	
ASTM	DIN
A 128 A	1.3401

Low Alloys Steel	
ASTM	DIN
A217-WC1	1.5419
A217-WC4	1.6759
A217-WC5	
A217-WC6	1.7357
A217-WC9	1.7379
A217-WC11	
A217-C5	1.7365
A217-C12	
A217-C12A	1.4955

Heat Resisting Steel	
ASTM	DIN
A297-HF	1.4825
A297-HH	1.4837
A297-HI	1.4846
A297-HK	1.4848
A297-HD	1.4823

Ductile Iron
DIN
1693 GGG-40
1693 GGG-50
1693 GGG-60
1693 GGG-70
1693 GGG-80

Grey Cast Iron
DIN
1691 GG-20
1691 GG-25
1691 GG-30
1691 GG-40

Martensitic Steel	
ASTM	DIN
A743-CA15	1.4107
A743-CA40	1.4027
A743 CA-6NM	1.4317
A352 LC1	1.5422
A352 LC2	1.5636
A352 LC2-1	1.6781
A352 LC3	1.5638
A352 LC4	

White Cast Iron	
ASTM	DIN
A 532 Class I Type A	G-X 330 NiCr 4 2
A 532 Class I Type B	G-X 260 NiCr 4 2
A 532 Class I Type C	
A 532 Class I Type D	G-X 300 CrNiSi 9 5 2
A 532 Class II Type A	
A 532 Class II Type B	G-X 300 CrMoNi 15 2 1
A 532 Class II Type D	G-X 260 CrMoNi 20 2 1
A 532 Class III Type A	G-X 300 CrMo 27 1

Foundry Standards & Certifications

The company currently has the following standard certificates:

ISO 9001: 2015 Steel Casting Certificate of Customer Management System and Quality

ISO 14001: 2015 Steel Casting Certificate of Energy and Environmental Management System

International Standards We Use:

BSI
(British Standards)

GOST
(Russian Standards)

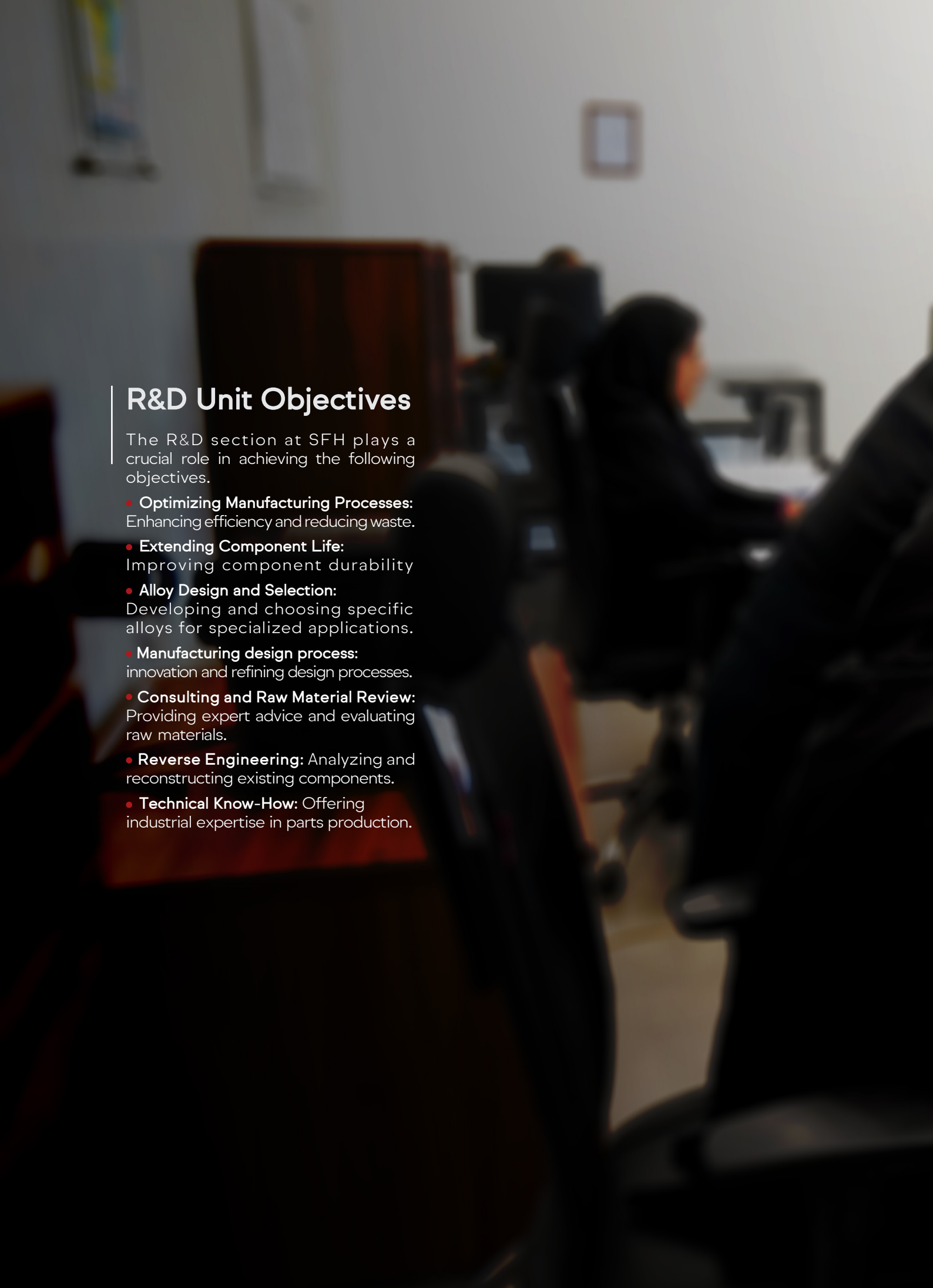
DIN
(German Standards)

UNI
(Italian Standards)

JIS
(Japanese Industrial Standards)

ISO / EN
(International Organization for Standardization / European Norms)

ASTM / AISI
(American Society for Testing and Materials / American Iron and Steel Institute)

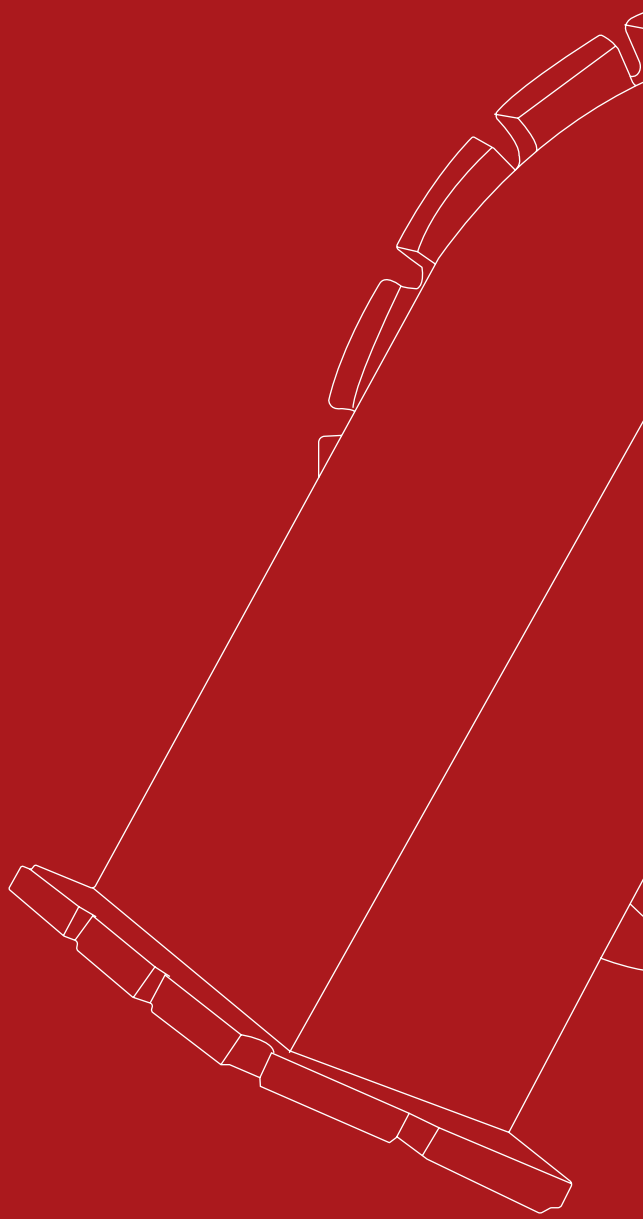


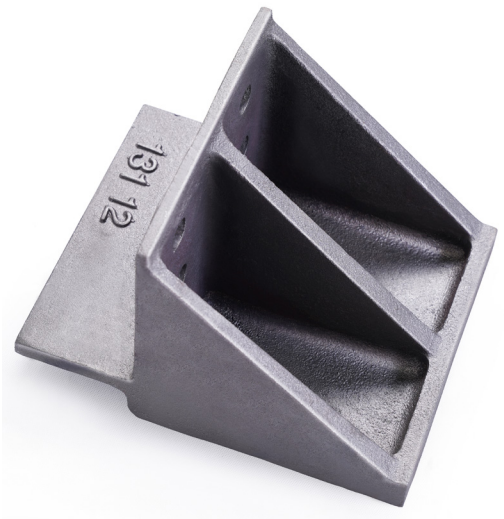
R&D Unit Objectives

The R&D section at SFH plays a crucial role in achieving the following objectives.

- **Optimizing Manufacturing Processes:** Enhancing efficiency and reducing waste.
- **Extending Component Life:** Improving component durability
- **Alloy Design and Selection:** Developing and choosing specific alloys for specialized applications.
- **Manufacturing design process:** innovation and refining design processes.
- **Consulting and Raw Material Review:** Providing expert advice and evaluating raw materials.
- **Reverse Engineering:** Analyzing and reconstructing existing components.
- **Technical Know-How:** Offering industrial expertise in parts production.

Some of our
products





Title: Lining Retainer

- **Weight** 25 kg
- **Material** 1.4729(GX40CrSi13)
- **Application** Annular Cooler

Title: Impeller

- **Weight** 28 kg
- **Material** AISI 316
- **Application** Crushers

Title:	Valve
• Weight	450 kg
• Material	ASTM A216-WCB
• Application	Oil industry

Title:	Bloster Plate
• Weight	1670 kg
• Material	GG25
• Application	Pressure Units

Title: Mandal Holder

- **Weight** 100 kg
- **Material** GGG70
- **Application** Trucks

Title: Gearbox

- **Weight** 1352 kg
- **Material** GG25
- **Application** Steel making industry

Title:	Steel Wheel
Weight	450 kg
Material	1.7225
Application	Steel making industry

Title:	Pump shell
Weight	180 kg
Material	A532 III
Application	Mine

Title:	Material grinding roller holder flange
Weight	161 kg
Material	GS 45
Application	Cement industry

Title:	Turbine Casing flange
Weight	161 kg
Material	GS 45
Application	Turbine

Title:	Tread gear
• Weight	6500 kg
• Material	1.7225
• Application	Mine

Innovation
prosperity.Creativity
Expertise.obligation
Respect for customer rights