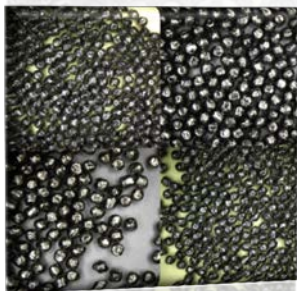




Company profile

Spajić Company specializes in production of steel fibers and cut wire abrasives, as well as the machines for their manufacturing. Since it was established in 2002, our company has distributed worldwide. High results we have achieved for the last fifteen years placed Spajić Company among the leading in its branch in the world market.

Today Spajić Company is unique at the territory of Serbia for its products and services that meet the highest international standards. We continue to improve the quality of our products and services, and the quality and trust of customers. We aspire to continuous development of technology and personnel as well as to preservation of the environment. By working with Spajic our Clients are assured of the highest standards of professionalism, quality and efficiency of services as further based on our years of experience and capabilities.



Cut Wire Abrasives

Spajic company produces steel abrasives by cutting bright, cold drawn, patented wire. For special applications, stainless steel wire or some other material can be used.

Spajic company produces **cylindrical** and **conditioned (G1, G2 and G3 type)** cut wire abrasives in different sizes and hardness.

Cut wire abrasives have found their use in surface treatment processes (shot peening, shot blasting, cleaning...) in different industries.

Cylindrical cut wire abrasives

- cut to the length equal to the diameter of the wire
- cylindrical shape with sharp edges
- mainly used for cleaning
- long service life
- standards: SRPS EN ISO 11125-1:2007; SRPS EN ISO 11125-1:2005; DIN 8201-4; SAE J-441

Usage

- cleaning,
- rust removal in pipes, metal constructions, tanks in oil and petrol industry,
- paint and color removal,
- grease removal,
- descaling and deburring of cast parts in foundries

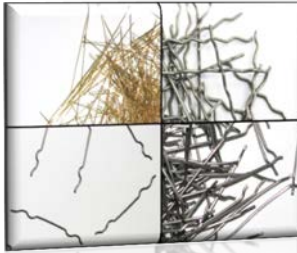
Conditional cut wire abrasives

- rounded to a certain degree – G1, G2 or G3 type of roundness
- conditioned shape with round edges
- mainly used for shot peening
- long service life
- standards DIN 8201-4; VDFI 8001; SAE J-441; AMS 2431/8A

Usage

- increase of strength and wear resistance of materials in automotive, avio industries and spring production
- shot peening
- cleaning

Steel fibers



Spajic company produces steel fibers that are used in steel fiber reinforced concrete (SFRC) which provides users with certain advantages in comparison with traditional reinforcement. Spajic steel fibers are low carbon, cold drawn steel wire fibers designed to provide concrete with temperature and shrinkage crack control, enhanced flexural reinforcement, improved shear strength and increase the crack resistance of concrete.

In our product range you can find the following type of steel fibers:

- Hook ended steel fibers
- Corrugated steel fibers
- High Performance Steel fibers
- Micro fiber

Usage

- Industrial floors
- Shotcrete and tunneling
- Foundation slabs
- Refractory concrete
- Hydro structures
- Airport and highway paving

The use of steel fiber reinforced concrete in industrial floors, slabs, hydro structures and airport and highway paving is essential. The main advantages are that steel fibers have better performance in concrete compared to traditional reinforcement rods in conventional concrete.

Steel fibers reinforced concrete inhibits cracking, improves resistance to impact, resist dynamic loading and material disintegration. They form a special 3D structural bond in concrete that allows equal distribution of load. Additionally, the quantity of steel fibers needed to achieve above mentioned properties is significantly smaller than traditional reinforcement rods. For that reason, the structures reinforced with steel fibers can be 20-25% less thick. As a rule, economic performance of steel fiber concrete floors is better than those of the floors reinforced with rods. Numerous sources state that the economy is as high as 12-20%.



Steel fibers and steel fibers reinforced concrete are used in shotcrete and tunneling. Some of the main reasons are better reinforcement of concrete and the increase of concrete resistance, as well the possibilities of smaller concrete thickness, especially for tunnel linings. Additional benefits of using steel fiber reinforced concrete: cost savings not having to manufacture and store the reinforcement cages, strengthening of the edges and therefore reduced spalling, multiaxial loads can be carried due to the three-dimensional reinforcement, better absorption of impact loads during placing and transport of tunnel segments, crack width control, larger deformation capacity in compression in case of absence of reinforcing bars, larger deformation capacity in tension, reduced spalling in case of corrosion of the reinforcement.

Another implementation of steel fibers is in refractory concrete. In some industries, production processes require the use of high temperatures. So, refractory concrete must be used as protection. Because refractory concrete undergoes a lot of stress due to large temperature variations, forming of cracks and deterioration is present. To prevent that, steel fiber reinforced concrete is used.

The presence of steel fibers makes concrete tougher, prevents the forming of cracks, make it less fragile and acts as a reinforcement against the thermal stresses.

Advantages of steel fibers in refractory concrete:

- higher compression, flexural and shear strength of the material against coactive heat-induced stresses;
- greater hardness of the surface layer and thus high resistance to mechanical shocks and abrasive agents;
- greater ductility of the material and thus a higher Ultimate Strength of the packing structure with a consequent increase in fatigue strength (vibrations, etc.);
- higher resistance to cracking both in the setting and firing phases;
- higher resistance to abrupt temperature changes;
- capacity to withstand loads even after cracking.

Steel fiber loading and disentangling machine



Steel wire fiber disentangling and loading machine is intended to be used to disentangle clumps of fiber for concrete reinforcement, and to convey the fibers which have been “sufficiently” disentangled from each other with a more or less uniform flow to other devices along the line, such as, for example, truck mixers, cement mixing equipment, belt conveyors etc.



The purpose of the machine is to prevent “balls of fiber” from entering the concrete mixing cycle and from creating a dangerous weak point in the concrete casting.

Another purpose of the machine is to provide steel fibers mixing into concrete prior to concrete pouring, providing on site operations which enable achieving recommendation for steel fibers mixing time of maximum 3-5 min per cubic meter of concrete.

Reference list of our most important clients

1. Reference list where Spajic steel fibers had been used for industrial floors by our customer NBN Engineering:

- Onkology institute Belgrade
- Military Medical Academy, Belgrade
- Farmalogist – distribution center
- Novonordisk – warehouse
- Galenika
- Uni-chem – warehouse
- Agrovojvodina
- Maxi supermarkets in Belgrade
- Restauraunt Šaran
- Museum of Contemporary Art, Belgrade
- Museum Colakovic
- Belgrade office – garages
- Societe General Bank – garages
- Imel Office buildings – garages
- Maxi supermarket – Pancevo
- West – Kovin
- Chemical agrosava – Belgrade
- Kolubara Construction
- Politika, Belgrade
- Metaloplast
- Stublina, Arandjelovac
- Mega Mont, Kraljevo
- Grafiprof, Belgrade
- Merkator Belgrade
- Izolir – production facilities
- Vinca Institute
- Adeco, Novi Sad
- Delta agrar, Stara Pazova
- Meser – tehnogas Smederevo
- Elikvir group, Sid
- Viktorija group, Sid
- Bing-bang, warehouse
- Private apartments, Belgrade

2. Reference list where Spajic steel fibers had been used for industrial floors by our customer Rinol:

- Amphora
- Delta Construction d.o.o.
- Tehnogradnja d.o.o.
- Letac d.o.o.

- Palco d.o.o.
 - Energo Maksystem d.o.o.
 - Intercell d.o.o.
 - ZOP Engineering d.o.o.
 - Rinol Skopje d.o.o.
 - Deneza M Engineering d.o.o.
 - Energogroup d.o.o.
 - Projmetal a.d.
 - Gradina d.o.o.
 - Trimo Engineering d.o.o.
 - IMP Balkan d.o.o.
 - Pet Prom d.o.o.
 - RAST d.o.o.
 - Slovas d.o.o.
 - Exing d.o.o.
 - Constructor Consulting d.o.o.
 - Gold Pack zptr
 - Voćar Kopaonik d.o.o.
 - Starting d.o.o
 - Ritam Engineering d.o.o.
 - M Profil d.o.o.
 - PTP Dis d.o.o.
 - Principal Duo d.o.o.
3. RHI AG, Austria
 4. Betonmix, Hungary
 5. Themeli, Greece
 6. Ading, Macedonia
 7. BACS Group, Riyadh metro project
 8. Winoa Group
 9. Frohn, Germany
 10. Severstalmetiz, Russia (machines)
 11. Romfracht, Romania (machines)
 12. Ibermetias, Portugal (machines)
 13. Zhiti, Bulgaria (machines)