



1 GENERAL INFORMATION

Duro is a calcium aluminate-based metallurgical flux developed by Çimsa for secondary steel refining applications. Designed by Çimsa's R&D Center, Duro offers high reactivity and consistent quality, contributing to improved steel cleanliness and process efficiency.

Its optimized chemical composition and particle size distribution ensure rapid slag formation and effective interaction with lime and other slag formers. Duro can be supplied in different particle size ranges depending on application needs.

2 APPLICATION AREAS

Duro is specifically designed for high-quality steel production in the iron and steel industry. It reduces the reaction temperature of the steelmaking process and enhances the purification of the final steel product by promoting early slag formation and inclusion removal. This results in:

- Higher slag efficiency through improved Al_2O_3/SiO_2 balance,
- Extended service life of refractory linings due to reduced slag line corrosion,
- Lower energy consumption and shorter refining times,
- Environmental benefits through reduced emissions and more efficient resource use.

3 PRODUCTION

Çimsa Aluminates products are produced in L-shaped kilns by fused method with the special cooling system.

4 PHASE COMPOSITION

Mineral Phases : $C_{12}A_7$, CA, C_2S

5 CHEMICAL COMPOSITION

Al_2O_3 (%)	CaO(%)	SiO_2 (%)
≥40,0	≥48,0	≤4,0

Fe_2O_3 (%)	TiO_2 (%)	MgO (%)
≤2,0	≤2,0	≤1,0

MINOR COMPOSITION

SO_3 (%)	Na 2Eq Alkali (%)	Cl-as ions (%)	S-as ions (%)
≤0,2	≤0,3	≤0,01	≤0,1

6 PHYSICAL PROPERTIES

Duro offers tailor-made particle size distributions in addition to the standard grading, allowing adaptation to specific process requirements.

<30 mm cumulative passing:	Max %10
----------------------------	---------

< 5 mm cumulative passing:	Max. %10
----------------------------	----------

7 QUALITY CONTROL

Çimsa Aluminates products are produced according to TS EN 14647 standard. Production processes are certified according to EN ISO 9001, EN ISO 45001 and EN ISO 14001.

8 SAFETY INSTRUCTIONS

Standard safety requirements for regular cements have to be followed. For more detailed information, please refer to the Safety Data Sheet of Duro.

9 STORAGE CONDITIONS AND SHELF LIFE

Duro must be stored in dry and sheltered conditions, in its original, tightly sealed packaging. When stored under these conditions, the product retains its properties for up to 12 months. No more than 10 bags or 2 pallets should be stacked on top of each other. The product should always remain in its original packaging, and when not in use, the package must be tightly sealed.

