

Ispitivanje otpornosti prema požaru požarno otpornih klapni

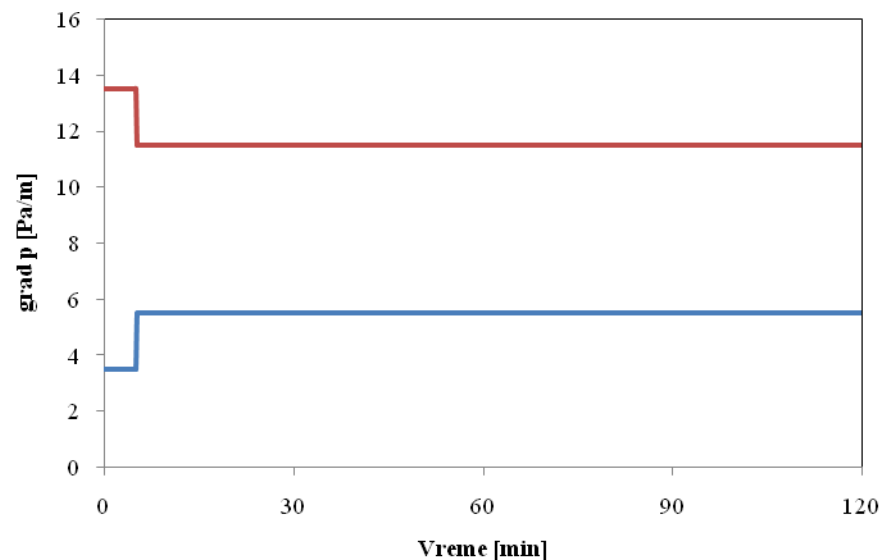
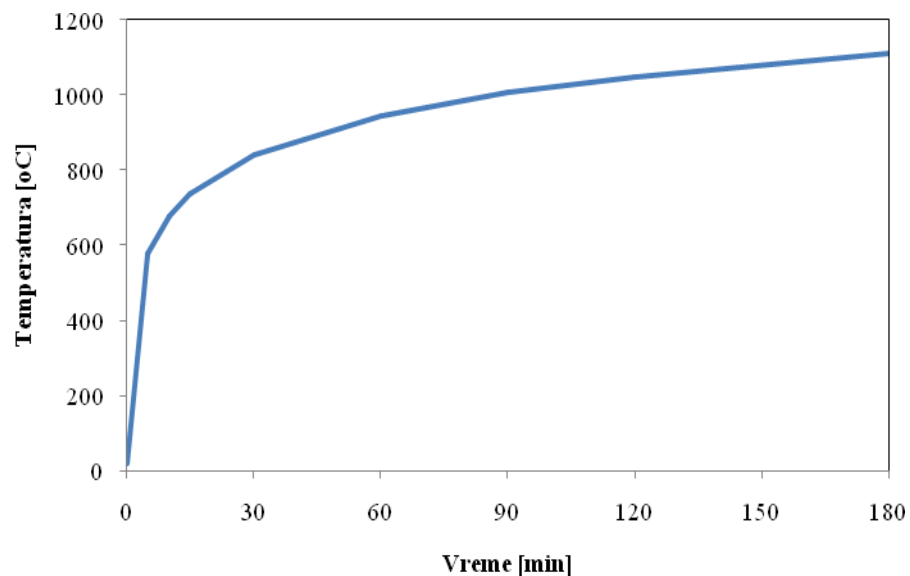
Aleksandar Kijanović
mast. inž. maš.
Institut IMS



SET
SAMIT ENERGETIKE TREBINJE

Procesing '22 1–3. jun 2022, Beograd

Ispitivanje otpornosti prema požaru požarno otpornih klapni – opšti uslovi u ispitnoj peći (SRPS EN 1363-1)



$$T[°C] = 345 \log_{10}(8t + 1) + 20$$

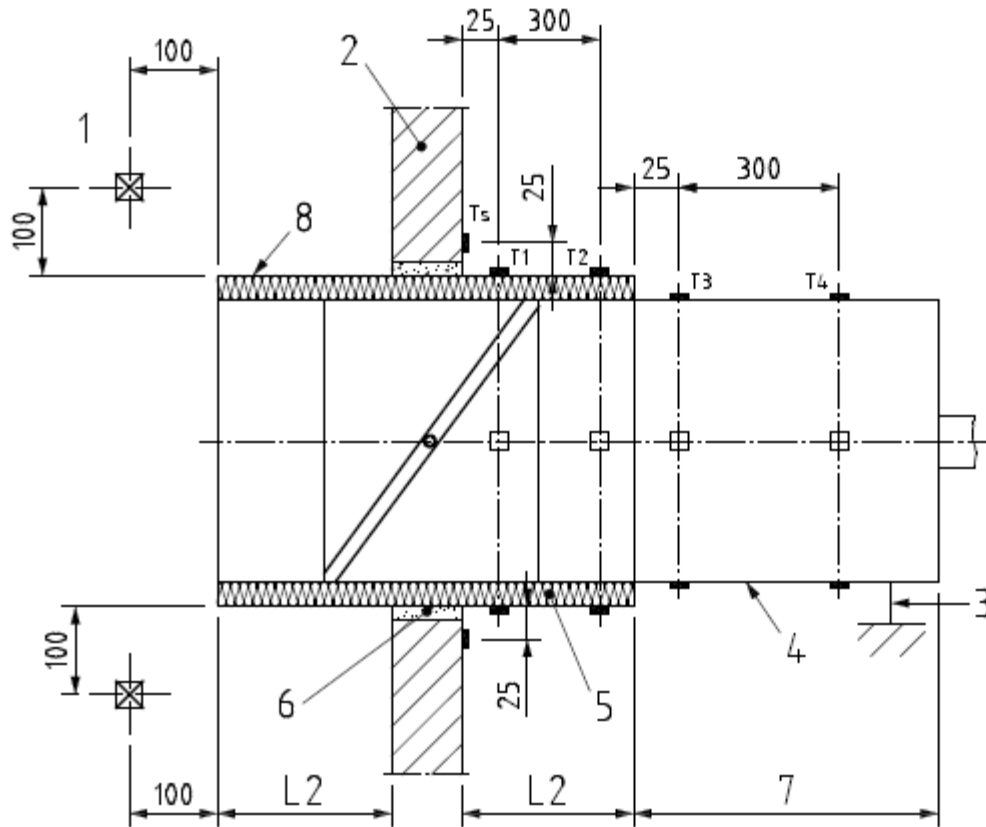


SET
SAMIT ENERGETIKE TREBINJE

Procesing '22 1–3. jun 2022, Beograd

Način ugradnje PP klapne u ispitni zid

Dimensions in millimetres



Bitne karakteristike klapni i klasifikacija proizvoda

Integritet (E)

Termoizolaciona svojstva (I)

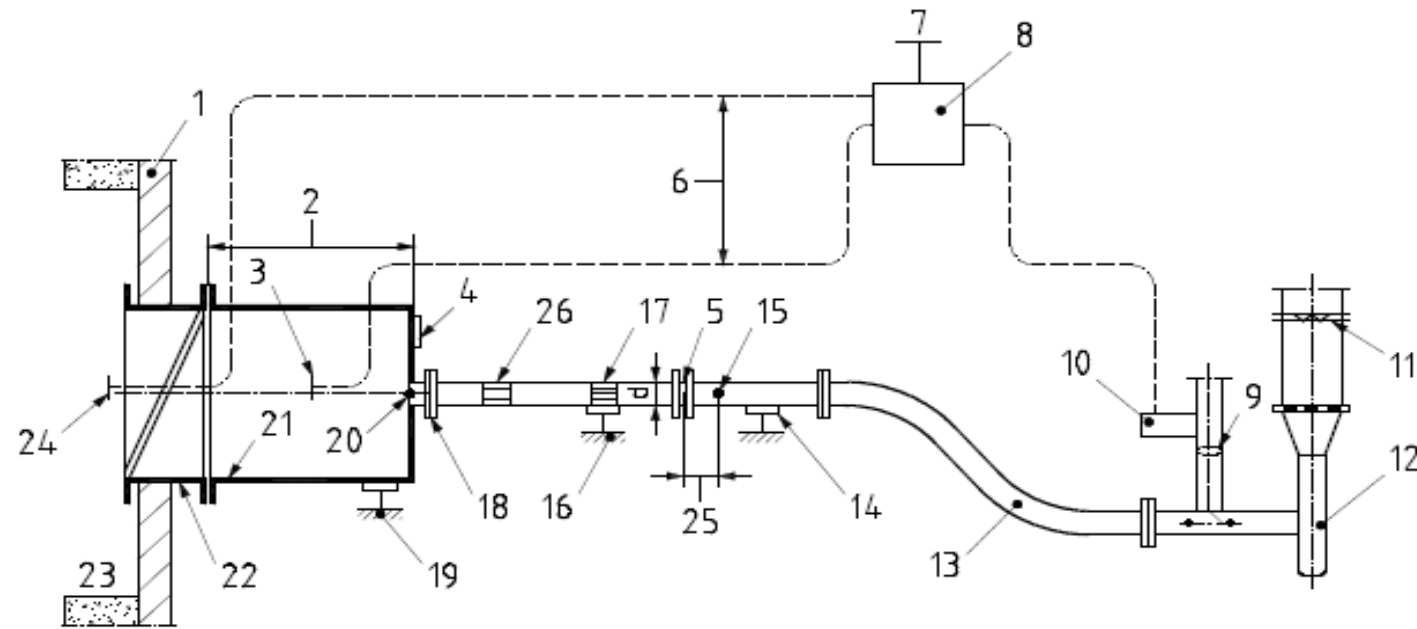
Zaptivenost klapne (S)

Primer izkazivanja klase proizvoda

EI (30,60,....,180) S



Ispitna instalacija za ispitivanje požarno otpornih klapni u skladu sa SRPS EN 1366-2

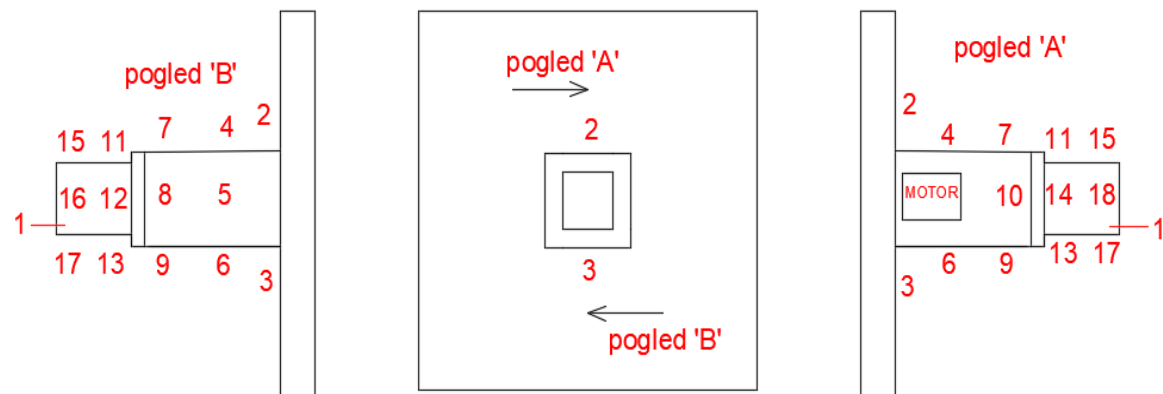


Key

1	supporting construction (wall)	10	actuator or manual control (if required)	19	support
2	2 × diagonal (to a maximum of 2 m)	11	balancing damper (if required)	20	thermocouple at exit from plenum
3	pressure sensor (on centre line)	12	fan	21	connecting duct
4	observation window	13	flexible connecting duct	22	test damper
5	orifice plate or venturi	14	support	23	furnace chamber
6	differential pressure - 300 Pa	15	thermocouple 1,5 mm diameter	24	pressure sensor (on centre line of damp)
7	pressure sensor in laboratory	16	support	25	distance: thermocouple - orifice plate - 2d
8	pressure differential control box	17	flow straightener (where necessary)	26	condensing device (if required)
9	pressure control dilution damper (if required)	18	flange		

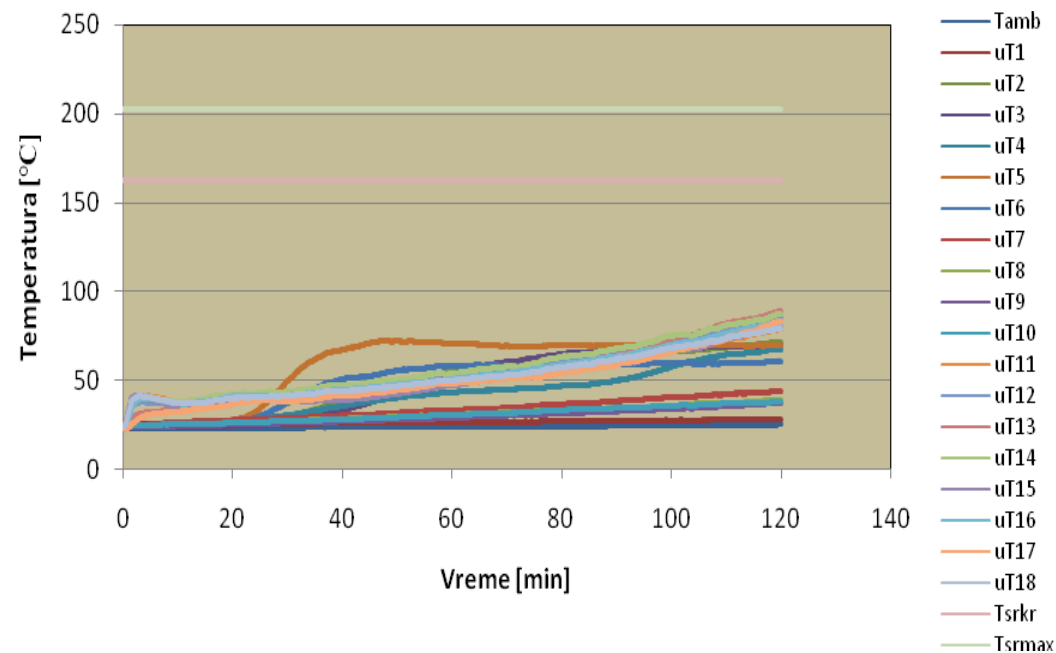


Ispitivanje termoizolacionih svojstava klapne



Pojmovi:

- Maksimalni temperaturni porast $\Delta T_{max} = 180K$
- Srednji temperaturni porast $\Delta T_{avg} = 140K$



SET
SAMIT ENERGETIKE TREBINJE

Procesing '22 1–3. jun 2022, Beograd

Ispitivanje integriteta klapne

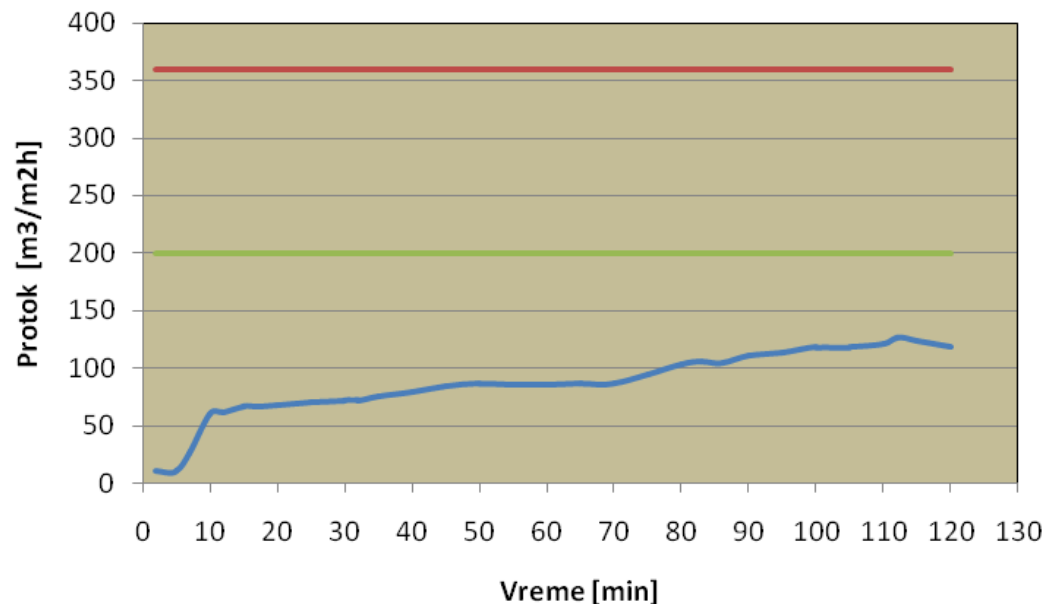
Standardne metode za proveru integriteta u skladu sa SRPS EN 1363-1

- provera integriteta pamučnim jastukom
 - pojava pukotina i/ili održivog plamena
- Propisana je gornja granica zapremisnkog protoka svedena po jedinici površine poprečnog preseka klapne ($360\text{m}^3/\text{m}^2\text{h}$), zahtev ispitnog standarda SRPS EN 1366-2.



Ispitivanje zaptivenosti klapne – S klasa

Ocena za ispunjenost uslova zaptivenosti PP klapne tokom celokupnog perioda požarnog ispitivanja izražava se pomoću zapreminskog protoka svedenog po jedinici površine poprečnog preseka klapne i iznosi manje od $200 \text{ m}^3/\text{m}^2\text{h}$.



Prikaz izvedene ispitne instalacije i klapne nakon testiranja



Hvala Vam na pažnji!



Procesing '22 1–3. jun 2022, Beograd